

Advances in Technology and Exchange

Technology made large populations possible; large populations now make technology indispensable.

—Joseph Krutch, writer and naturalist (1893–1970)

Essential Question: How has the development of new technology changed the world since 1900?

While the population of the world grew, globalization made the world feel smaller, as did advances in telecommunications technology. Starting in the early 1900s, **radio** brought news, music, and cultural events to a wide range of people. Later in the century, air travel and **shipping containers**, large standard-sized units that could be carried on a truck or train or stacked on ship, promoted the widespread movement of people and goods. Energy technologies, such as the use of oil and nuclear power, made it possible to transport goods faster and more cheaply than ever. The internet, first developed for the U.S. Defense Department during the Cold War, emerged as a regular tool of communication for much of the public by the late 1990s. Knowledge economies, based on developing or sharing information, took root in cities around the world.

Communication and Transportation

Decades before the introduction of the internet, communication technologies were connecting people around the world. Television and radio ads encouraged people to “reach out and touch someone” by making a long-distance phone call. By the 1990s, mobile technologies such as cellphones put the tools of information creation and dissemination into the hands of individuals around the world. Twitter, Facebook, and other social networking sites made the media accessible to anyone anywhere.

The impact of this revolution became apparent quickly. Videos taken on phones of police actions in the United States and other countries led to inquiries into racial profiling and sparked outrage. Social media also played a role in the “Arab Spring,” a series of antigovernment protests that spread from country to country in North Africa and the Middle East in the 2010s as people shared their protest experiences on social media.

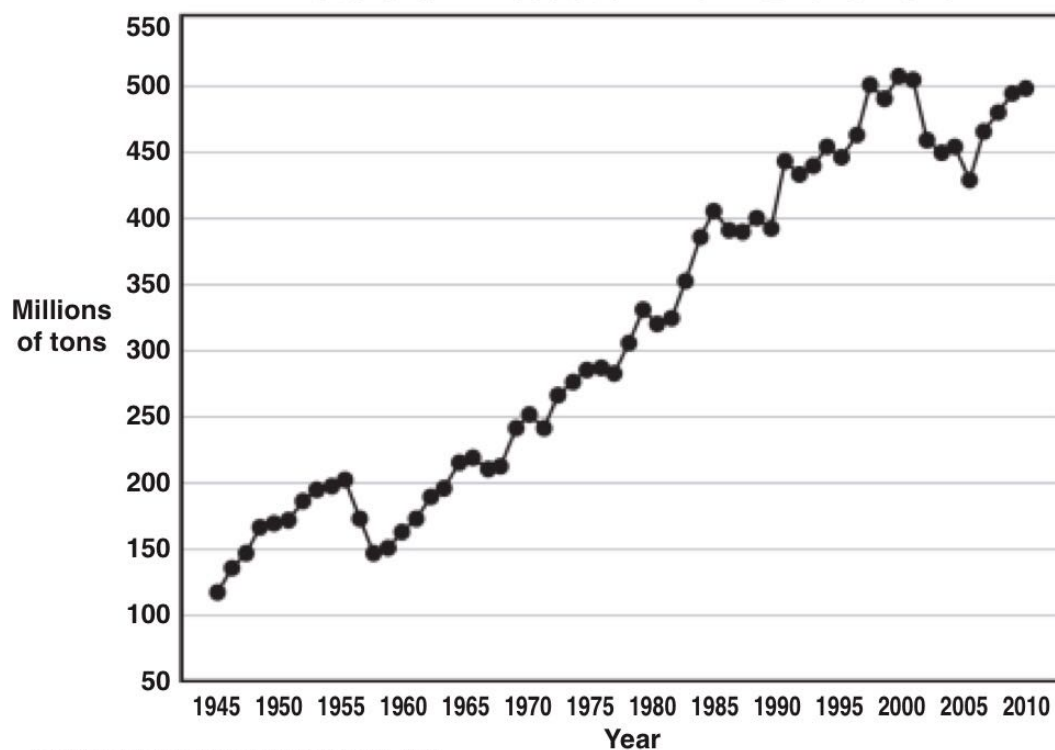
While communication technologies put people in virtual touch, transportation advancements move people and goods into actual proximity. Every day, about 2 million people fly on an airplane. Cargo planes transport commercial shipments around the clock. Giant tankers—up to one-quarter mile in length—loaded with thousands of shipping containers ply the seas in increasing numbers, some of them too big to fit through the Panama Canal.

The Green Revolution

In the mid-20th century, the **Green Revolution** emerged as a possible long-term response to hunger. Scientists developed new varieties of wheat, rice, and other grains that had higher yields and greater resistance to pests, diseases, and drought. The new varieties were first developed by **crossbreeding**—breeding two varieties of a plant to create a hybrid. More recently, scientists have used **genetic engineering**—manipulating a cell or organism to change its basic characteristics. Farmers also used more irrigation, fertilizers, and pesticides. In Brazil and elsewhere, people burned down forests and plowed the land for agriculture. Acreage devoted to crops, especially grains, increased dramatically worldwide.

The Green Revolution solutions were not free of problems. Many small farmers could not afford the new fertilizers or pesticides. For this reason, they were often unable to compete with large landowners. Many small farmers were forced to sell their land, increasing the holdings of large landowners even more. Also, since some of the techniques developed in the Green Revolution involved the use of mechanized equipment, fewer jobs were available for farm laborers. Finally, the heavy applications of chemicals damaged the soil and the environment.

Total Grain Production in China 1945–2010



Genetic engineering created its own set of concerns as well. Some argued that a genetic modification designed to give a plant resistance to insects might inadvertently cause a decline in the population of pollinating insects, such as bees. Another problem was the loss of old seed varieties as new genetically engineered plants were adopted.

Energy Technologies

In 1900, coal accounted for about half of the global energy consumed. As extraction, refinement, and transportation technologies allowed for widespread use, petroleum, also known as crude oil, and natural gas joined coal in fueling industrial output and helped increase productivity. Research in the 1930s and 1940s that led to the atomic bomb also led to the first use of nuclear power plants to generate electricity for factories and homes.

Fossil fuels—coal, petroleum, and natural gas—are nonrenewable resources. Once they have been used up, the supply is permanently depleted. Fossil fuels have contributed to air pollution and to the cloak of greenhouse gases, especially carbon dioxide, that allow sunlight through the Earth's atmosphere but block the escape of Earth's heat. Nuclear power, while considered a clean energy, has its own dangers. Accidents at nuclear plants have caused serious problems with leaked radiation, and storing nuclear waste has hazardous consequences.

Technologies continue to be developed to combat the emission of carbon dioxide and other greenhouse gases as well as minimize harm from nuclear power. The building of nuclear power plants declined starting in the 1980s, and nuclear power accounts for only about 5 percent of global energy consumption. Renewable resources, such as wind and solar power, are beginning to supply energy to both industries and homes, but they too represent only 5 percent of global energy output. (Connect: Analyze the role of various energy sources in the first and second industrial revolutions and in the 21st century. See Topic 5.5.)

Medical Innovations

A number of advances in medicine have had a dramatic effect on the survival and longevity of humans. Medical research and advancement benefit from, and also inspire, new technologies.

Antibiotics In 1928, Scottish biologist Alexander Fleming was working in his lab in London when he accidentally discovered that a particular fungus produced a substance that killed bacteria. He had discovered penicillin. Penicillin became the first **antibiotic**, a useful agent in curing bacterial infections. During World War II, antibiotics saved the lives of soldiers who would have died in any previous war from a minor wound that became infected. After the war, antibiotics spread to civilian use, where they fought a range of illnesses.

“I would like to sound one warning,” Fleming said in a speech as he accepted the Nobel Prize. He pointed out that the extensive use of antibiotics carried a risk. By killing off certain strains of a disease, antibiotics allowed the evolution of strains of the disease unaffected by them. These antibiotic-resistant strains could be untreatable. This prospect raised fears of renewed epidemics of diseases once under control.



Source: Getty Images

Penicillium fungi are the source of penicillin, which people can take orally or by injection. Penicillin works by interfering with bacteria cell walls. Scientists began to treat humans with the drug in 1941.

Reliable Birth Control Another groundbreaking medical advance was in **birth control**. In the early 1950s, scientist Gregory Pincus developed a birth control pill, a more reliable method than the barrier methods then in use. Scientists tested the pill on women in the 1950s, and the U.S. government approved it for widespread use in 1960.

As a result of the pill and other forms of birth control, **fertility rates** declined in much of the world. In other words, the average woman began having fewer babies than her mother or grandmother had. Birth control transformed sexual practices and played a part in reshaping gender roles. By 2018, more than 300 million women worldwide were using modern forms of contraception, including the pill.

Vaccines Vaccines have existed since 1796, but governments and nonprofit organizations did not begin developing and widely distributing **vaccines** to prevent deadly diseases until after 1900. Thanks to vaccines, polio and measles became rare, and smallpox was eradicated by the 1980s. Vaccines are also available to prevent mumps, measles, tetanus, diphtheria, and whooping cough, all potentially serious diseases. As of 2019, a malaria vaccine is in the trial stage.

According to the World Health Organization (WHO), vaccines were preventing as many as 3 million deaths each year in the 21st century. However, the WHO also said that better vaccination coverage would save another 1.5 million people annually. Some people were unable to get vaccinated because they lived in hard-to-reach areas.

KEY TERMS BY THEME

SOCIETY: Communication

radio

internet

ENVIRONMENT: Ecology

Green Revolution

crossbreeding

genetic engineering

TECHNOLOGY: Travel

shipping containers

TECHNOLOGY: Medicine

antibiotic

birth control

fertility rates

vaccine

Technological Advancements and Limitations—Disease

We live in a world fraught with risk from new pandemics. Fortunately, we also now live in an era with the tools to build a global immune system.

—Nathan Wolfe, virologist (born 1970)

Essential Question: How have environmental factors affected human populations since 1900?

As virus specialist Nathan Wolfe pointed out, progress in science and medicine, combined with government-run public health measures, drastically reduced illnesses and deaths from many diseases after 1900. These included **pandemics**, epidemic diseases that spread across national borders. The disease **smallpox**, for example, had plagued the ancient Egyptians and devastated the native population of the Americas and Australia. As recently as the 1960s, it killed millions of people each year. However, the World Health Organization (WHO) conducted a global vaccination campaign to wipe out the disease. In 1979, scientists declared success. Smallpox had been eliminated from the planet, except for the culture kept alive at the Centers for Disease Control in the United States.

Other diseases persisted, especially those related to poverty, including malaria, tuberculosis, and cholera. New epidemics also emerged, such as deadly strains of flu, HIV/AIDS, and Ebola. Other conditions, such as heart disease and Alzheimers, became more common as people began living longer. Each medical problem spurred even more technological and medical advances to try to combat it.

Disease and Poverty

Even when cures exist, some diseases persist because the conditions of poverty are contributing factors. Poor housing or working conditions, contaminated water, and lack of access to health care are commonplace among populations with low incomes, and they all contribute to the spread of disease.

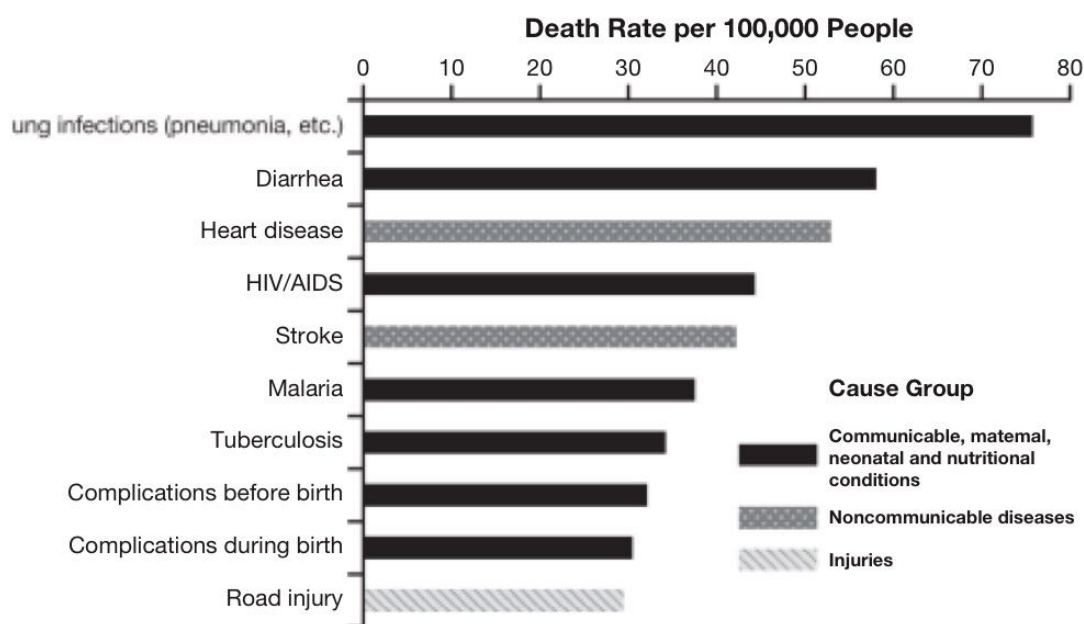
Malaria A parasitic disease spread by mosquitoes in tropical areas, **malaria** killed more than 600,000 people each year in the early 21st century. Most of these were young African children. The international non-governmental

organization (NGO) **Doctors Without Borders** treated about 1.7 million people annually. Experts developed preventive approaches, such as distributing mosquito nets treated with insecticide as cover during sleep. However, people can still become infected during waking hours. A vaccine for malaria has been in development for many years, but one that is effective in most cases is still in trials. Nonetheless, progress has been made. In 2019, the World Health Organization certified Algeria and Argentina as malaria-free. The organization cautioned, however, that some types of mosquitoes were becoming resistant to insecticides.

Tuberculosis Another disease associated with poverty is **tuberculosis (TB)**, an airborne infection that spreads through coughs and sneezes and affects the lungs. Before 1946, no effective drug treatment was available for this deadly disease. Then a cure was developed involving antibiotics and a long period of rest. In countries where TB is common, vaccines are administered to children. In the early 21st century, a strain of tuberculosis resistant to the usual antibiotics appeared. The number of infected patients increased, especially in prisons, where people live in close quarters. The WHO began a worldwide campaign against tuberculosis in the 2010s.

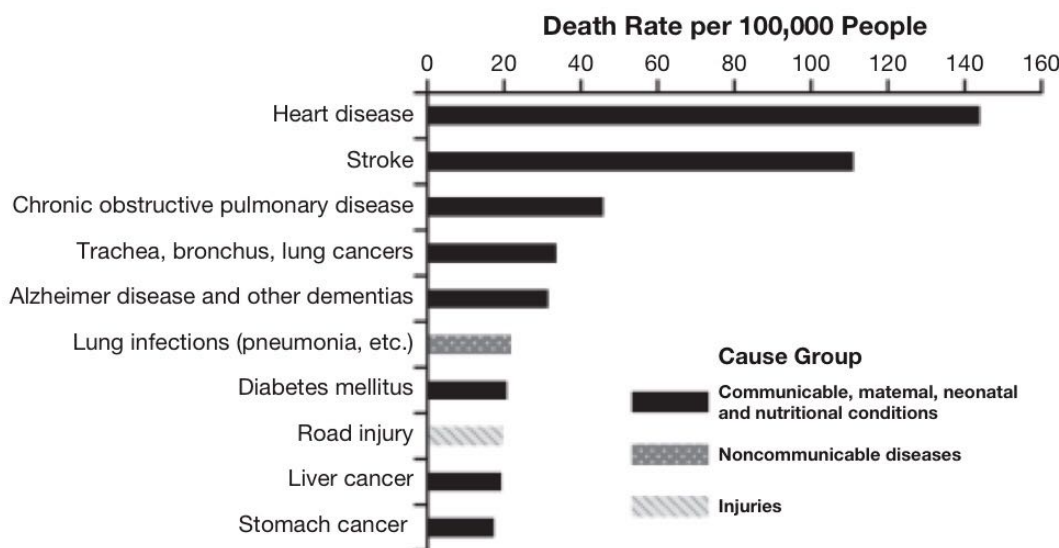
Cholera A bacterial disease that spreads through contaminated water, **cholera** causes about 95,000 deaths per year. Like tuberculosis and malaria, cholera affects mainly poor people in developing countries. Methods to counter cholera include boiling or chlorinating drinking water and washing hands. Although cholera vaccines are available, they do not reduce the need to follow these preventive measures. A severe cholera infection can kill within a few hours, but quickly rehydrating an exposed person can effectively eliminate the risk of death.

Top 10 Causes of Deaths in Low-income Countries in 2016



Source: Global Health Estimates 2016: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2016. Geneva, World Health Organization; 2018. World Bank list of economics (June 2017). Washington, DC: The World Bank Group; 2017 (<https://datahelpdesk.worldbank.org/knowledgebase/articles/905319-world-bank-country-and-lending-groups>).

Top 10 Causes of Deaths in Upper-middle-income Countries in 2016



Source: Adapted from Global Health Estimates 2016: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2016. Geneva, World Health Organization; 2018. World Bank list of economies (June 2017). Washington, DC: The World Bank Group; 2017 (<https://datahelp-desk.worldbank.org/knowledgebase/articles/905319-world-bank-country-and-lending-groups>).

Polio Another disease caused by water contaminated by a virus transmitted in fecal matter, **polio** once infected 100,000 new people per year. It could result in paralysis and sometimes death. The world cheered when an American researcher, **Jonas Salk**, announced on April 12, 1955, that an injectable vaccine against polio had proven effective. Six years later, an oral vaccine, developed by **Albert Sabin**, became available.

Vaccines became the centerpiece of a global public health campaign to eliminate polio. A joint effort by governments, private organizations, and United Nations agencies began in 1988. In less than 30 years, polio was eliminated in all but a few countries. In places where it still exists, such as Pakistan and Afghanistan, war makes administering the vaccine difficult. Political unrest and religious fundamentalism make people fearful of programs advocated by outsiders. Still, the success of the campaign showed that coordinated global efforts could help solve global problems. (Connect: Compare the effects of diseases during the Age of Exploration to those in the 20th century. See Topic 4.3.)

Emerging Epidemics

Some diseases have emerged that caused major social disruption. In the fall of 1918, as World War I was drawing to a close, a new fight erupted. The issue of the *Journal of the American Medical Association* published on December 12, 1918, described the battle this way: “Medical science for four and one-half years devoted itself to putting men on the firing line and keeping them there. Now it must turn with its whole might to combating the greatest enemy of all—infectious disease.” In fact, more soldiers died from the flu than from

battle. One quarter of all Americans and one-fifth of the world's population became infected with this particularly virulent strain of the flu, which killed 20 million people worldwide. Its victims tended to be between the ages of 20 and 40. The effects of the flu were so disastrous that longevity in the United States fell by 10 years. More people died from the flu in 1918–1919 than had died in four years of the Bubonic Plague (1347–1351). Like the plague, the flu spread along trade routes and with military troops.

HIV/AIDS Another disease outbreak causing social disruption occurred between 1981 and 2014. **Acquired immunodeficiency syndrome (AIDS)**, which is caused by the **human immunodeficiency virus (HIV)**, killed more than 25 million people around the world. HIV weakens the immune system, so people more easily succumb to other illnesses. The virus is contracted through the exchange of bodily fluids, usually through unprotected sex, blood transfusions, or sharing intravenous needles. Funding for the research on the disease, which was associated in its early days with homosexual men and drug addicts, was difficult to come by, and a high percentage of its first victims died.

By the mid-1990s, however, medical researchers had developed ways to treat the disease but not to cure it. **Antiretroviral drugs** could stop HIV from weakening the immune system, thus allowing a patient to live with the virus for many years. However, the drugs were very expensive, so access to treatment was difficult, particularly for patients in poor countries. Brazil is a notable exception. In 1996 it established a policy of providing free antiretroviral drugs to any person who needed them. Deaths have declined dramatically, and the program has actually saved the government money by lowering the number of hospitalizations, medical leaves, and early retirements.

After 2000, the WHO, the United States government, and private groups increased funding for AIDS prevention and treatment, but the disease remains a serious problem. In 2018, about 40 million people globally were living with HIV, the majority in developing countries or low-income neighborhoods of developed countries. Each week, more than 600 young women between the ages of 15 and 24 become infected with HIV, and many lack access to healthcare.

Ebola Another recent and frightening epidemic is Ebola. Discovered in the Congo in 1976, **Ebola** is a deadly disease caused by a virus that infects the African fruit bat, humans, and other primates. Humans get the virus from exposure to fluids of infected people or animals. The disease causes extensive bleeding, organ failure, and, for the majority of infected people, death. In 2014, a massive outbreak in West Africa caused fear around the world. However, a coordinated, intensive public health effort contained and then ended the outbreak. As with polio, countries demonstrated their ability to work together to confront a danger. The WHO took a leading role in this public health response, issuing emergency warnings and implementing a “road map” for handling the outbreaks.

Diseases Associated with Longevity

Heart Disease As longevity increases, diseases that typically do not develop until later in life began to assert themselves. **Heart disease**, for example, is associated with lifestyle, genetics, and increased longevity. One of the major discoveries in fighting heart disease was the **heart transplant**, first performed by the South African **Christiaan Barnard** in 1967. **Robert Jarvik** led a team that designed an **artificial heart**, used as a temporary device while the patient waited for a compatible human heart. Other researchers developed less invasive procedures: replacing valves, installing stents in arteries, replacing the vessels leading to the heart, and developing medications to reduce blood conditions that led to heart disease. In the 2000s, people with heart disease lived longer than similarly affected people did in the 1970s.

Alzheimer's Disease As people lived longer, a form of dementia known as **Alzheimer's disease** that affects elderly and some middle-aged people also became an increasing concern. Alzheimer's patients progressively lose their memory, eventually leading to a stage in which they do not recognize their loved ones. Since the disease undermines bodily functions, it leads to death. Researchers continue to search for a cure.

KEY TERMS BY THEME

ENVIRONMENT:

Epidemics

pandemic
smallpox
malaria
Doctors Without Borders
tuberculosis
cholera
smallpox
Jonas Salk

Albert Sabin

polio

Acquired Immunodeficiency

Syndrome (AIDS)

Human Immunodeficiency

Virus (HIV)

Ebola

SOCIETY: Disease

heart disease

Alzheimer's disease

TECHNOLOGY: Medical Advances

antiretroviral drugs
heart transplant
Christiaan Barnard
Robert Jarvik
artificial heart

Technology and the Environment

Climate change does not respect border; it does not respect who you are—rich and poor, small and big. Therefore this is what we call global challenges which require global solidarity.

—Ban Ki-moon, UN Secretary General, 2007–2016

Essential Question: What were the causes and effects of environmental changes from 1900 to the present?

During the 20th and 21st centuries, human agricultural, industrial, and other commercial activity contributed to many environmental changes that led to increased competition for increasingly scarce resources. These problems include:

- **Deforestation**—the loss of Earth’s trees as a result of cutting down trees so the land could be used for agriculture
- **Desertification**—the removal of the natural vegetation cover through expansion and intensive use of agricultural lands in arid and semi-arid lands
- A decline in **air quality** as a result of increased pollutants in the air
- Increased consumption of the world’s supply of fresh water

Scientists observed that, along with these changes, Earth was getting warmer. Ban Ki-moon, a South Korean politician and diplomat, and many other world leaders concluded that climate change was a global problem and debated the best ways to approach it through global action.

Causes of Environmental Changes

A number of interconnected factors contributed to the environmental changes that have taken place since 1900.

Population Growth In 1900, the world population was 1.6 billion. By 1950 it had risen to 2.55 billion, and by 2000 the population was 6.12 billion. All of the billions more people that lived on the planet since 1900 needed to be fed. Growing populations led to a demand for more croplands. This increase in land used for agricultural purposes resulted in deforestation, soil erosion, and smaller habitats for many species of plants and animals.

Growing populations affected not only land resources but also water resources. Overfishing in the oceans has led to the near disappearance of cod. Although fresh water is a renewable resource, growing populations consume increasing amounts of it.

Urbanization Another cause of environmental change is the increasing size and number of cities. By some estimates, by 2025, 5.1 billion people will live in cities, which will pressure those who grow food to use intensive farming methods that deplete the soil and cause erosion or to clear more forests for agricultural use. City dwellers also produce vast amounts of waste, some of which pollutes the water they depend on.

Globalization and Industrialization The global reach of industrialization has also affected the environment. As industry spread to developing countries, energy and other natural resources used in manufacturing were in demand, drawing further on the reserves of resources. Workers in industry in these developing countries are creating a new middle class that increases the market for such products as cars that require metals and other resources and that also contribute to pollution.

Effects of Environmental Changes

While humans have always competed for raw materials and natural resources, this competition became more intense as industrialization spread. With an ever-growing population, humans grappled with hunger, environmental damage, and global epidemics.

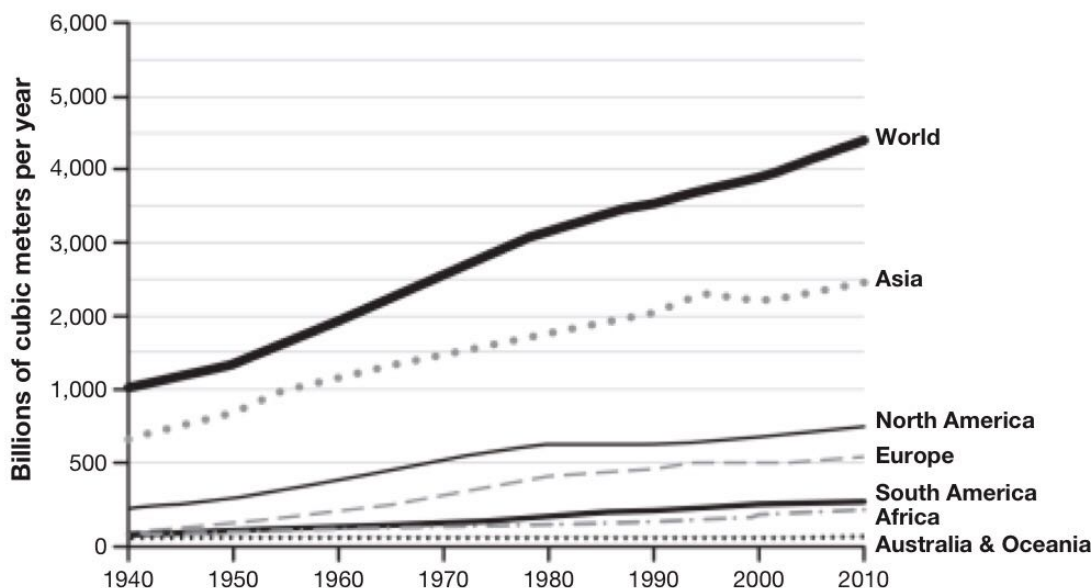
Resource Depletion Since the mid-1800s, when petroleum extraction began in earnest and oil pumped energy into the Industrial Revolution, about half of the earth's finite resources of this vital resource have been used up. With the rapidly growing urban and industrial population, some experts predict the remaining half could be used up at a much faster rate, within the next 30 to 40 years. While supplies of coal will last longer, if coal is used to make up for the loss of petroleum, coal reserves could also be depleted in 60 years. (Connect: Evaluate the claim that the Industrial Revolutions have created dependency on natural resources that will soon lead to their depletion. See Topic 5.5.)

Inequality and Scarce Resources According to the United Nations, 31 countries are facing **water scarcity** and more than 1 billion people lack clean, accessible drinking water. As water consumption continues to increase, some corporate interests are depleting, polluting, and exploiting water sources. The World Health Organization predicts that by 2025, half of the world's population will lack clean and safe drinking water.

Water scarcity is also linked to other inequalities. Surveys from 45 developing countries show that women and children bear the primary responsibility for water collection in most households. This is time not spent working at an income-generating job or attending school. A study in Ghana found that a 15-minute reduction in water collection time increases the proportion of girls attending school by 8 percent to 12 percent.

In 2015, world leaders agreed to 17 goals for a better world by 2030. Many of these global goals address the environmental problems the world faced after 1900 that relate to extreme poverty, inequalities and injustice, and climate change.

Global Water Consumption, 1900–2025



Source: Adapted from Sampa, Commons.Wikimedia.org

Changes in the Atmosphere Factories, automobiles, airplanes, and many other products and processes of industrialization have emitted huge amounts of pollutants, including carbon dioxide and other **greenhouse gases**—those that build up in the atmosphere and let the heat of the sun reach Earth but trap it from escaping Earth. At the same time, some of Earth’s natural carbon trapping resources, including forests and ground cover for unused farmlands, are shrinking.

Development of Renewable Energy Sources Concerned about unsustainable demands for energy through **fossil fuels** (coal, oil, petroleum, and natural gas), companies and nations began to invest in **renewable energy**, energy derived from resources that are continuously replenished, such as wind, solar, tidal, and geothermal power. At first, high costs slowed development of such sources. However, as new techniques and technologies reduced costs, these sources became increasingly attractive options. Renewable energy provides only about 7 percent of the world’s energy needs. However, a 2018 study predicted that by 2050, half the world’s electricity will come from wind power and solar power.

Increasing Environmental Awareness In 1968, the “Club of Rome”—an organization of scientists, industrialists, diplomats, and others—formed in Europe to promote solutions to global challenges facing humanity. It called attention to concerns that resource depletion would limit economic growth. In many countries, people joined a **Green Party** that focused on environmental issues. Some supported the **Green Belt Movement** to protect wilderness areas from urban growth. (See Topic 9.5.) By the 21st century, the Green Belt

Movement had planted more than 51 million trees in Kenya. The trees help to preserve ecosystems and lessen the effects of greenhouse gases. Planting trees also created employment and the improved soil quality.

Debates About Global Warming

Air pollutants and greenhouse gases prompted debates about rising temperatures. Scientists, including those on the United Nations' Intergovernmental Panel on Climate Change, cited data showing that the emissions of carbon dioxide and other greenhouse gases caused by the burning of fossil fuels were causing **global warming**. This is an increase in the average temperature of the world. Experts advised governments to reduce their countries' **carbon footprint**—the amount of carbon dioxide that each person produces. Without a reduced carbon footprint, global warming would contribute to catastrophes: more powerful hurricanes, more severe droughts, and rising sea levels that could flood islands and coastal areas. Some activists argued that the term “global warming” was too mild to express the urgency of action. They said that humanity faced a “climate emergency” or “climate crisis.”

Climate-change skeptics, in contrast, questioned whether global warming was happening and whether human activities had any influence on the climate. In addition, some people in the energy industries resisted the interference of government, arguing that market forces would cause consumers to reduce their carbon footprint if that became necessary. In contrast, other leaders of energy companies began planning for a shift to renewable fuel sources.

Most government leaders, however, agree that global warming requires a global response, but countries disagree on how to reduce carbon emissions.

Debate over Reducing Carbon Emissions		
Issue	Developed Countries (including the United States and Western Europe)	Developing Countries (including China, India, Russia, and Brazil)
Reason for Reducing or Producing Carbon Dioxide	Developing countries need to reduce their rapidly increasing outputs of carbon dioxide.	Developing countries are trying to provide electricity, cars, and a path out of poverty for their citizens. (Developed countries already did this by using huge amounts of coal and oil.)
Quantity of Carbon Dioxide Produced	In 2007, China passed the United States as the world's biggest emitter of carbon dioxide.	Developing countries emit far less carbon dioxide <i>per person</i> than developed countries do. Therefore, developed countries must take the lead in restricting their use of fossil fuels.

Kyoto The first major international agreement to reduce carbon emissions was the **Kyoto Protocol**, signed in 1997. Developed nations in Western Europe, along with the United States, argued that developing countries, such as China, India, Russia, and Brazil, needed to curb their rapidly increasing output of carbon dioxide. However, the United States refused to ratify it, and China and India were not required to agree to the strictest terms of the protocol.



Global Action at Paris In 2015, 195 countries signed a deal, the **Paris Agreement**, that gave new hope for progress against global warming. Leaders of both the United States and China supported this new deal. However, in 2017, President Donald Trump announced that the United States would withdraw from the Paris Agreement.

Climate Activism Increasing global temperatures led to calls to action. “You say you love your children above all else, and yet you are stealing their future in front of their very eyes,” 15-year-old climate activist Greta Thunberg raged in a speech at a United Nations climate conference in 2018. Beginning with a solo protest in her native Sweden, Thunberg eventually led a global climate strike with more than 1.6 million participants in more than 125 countries.

Extinction Rebellion, a climate activist group formed in 2018, engaged in civil disobedience in London, blocking a main bridge and key intersections for more than a week, chaining themselves to the headquarters of big companies, and interrupting “business as usual” in other ways. About a thousand people were arrested, but the group succeeded in having Members of Parliament call a citizens’ assembly to discuss ideas for addressing the climate emergency. Many other citizen groups are pressuring lawmakers in many countries to take necessary steps to avert the worst consequences of continued warming predicted in reports from the UN’s Intergovernmental Panel on Climate Change.

A New Age?

What should people call the time period we live in? Traditionally, geologists have called the current period the Holocene epoch. *Holocene* means “entirely recent.” This time period started about 11,700 years ago, at the end of the last significant ice age.

However, some scientists believed humans have left the Holocene. They wanted to call the present time the **Anthropocene**. This term means “new man.” These scientists wanted to change the name because humans now affect almost the entire planet. In 2019, a panel of scientists voted to approve the name. *Anthropocene* reflects the idea that humans are the strongest influence on Earth’s climate and environment—for better and for worse.

KEY TERMS BY THEME		
CULTURE: Movements and Organizations Green Party Green Belt Movement	ENVIRONMENT: Scientific Studies deforestation desertification air quality greenhouse gases fossil fuels water scarcity	renewable energy global warming carbon footprint Anthropocene GOVERNMENT: International Agreements Kyoto Protocol Paris Agreement

Economics in the Global Age

*A market economy is to economics what democracy is to government:
a decent, if flawed, choice among many bad alternatives.*

—Charles Wheelan, *Naked Economics: Undressing the Dismal Science* (2002)

Essential Question: How did the global economy change and remain the same from 1900 to the present?

Global trade exploded with the end of the Cold War. The new global economy was part of a renewed emphasis on market-oriented policy advocated by leaders such as **Ronald Reagan** in the United States and **Margaret Thatcher** in Great Britain. They advocated cutting taxes, regulations, and government assistance to the poor as a way to promote economic growth. As Wheeler pointed out, this was a flawed choice producing greater wealth for many but hardships for others. At the same time, revolutions in information and communications technology led to the growth of knowledge economies in some regions, while industrial production and manufacturing were increasingly situated in Asia and Latin America.

Acceleration of Free-Market Economies

Globalization is interaction among peoples, governments, and companies around the world. The Indian Ocean trade and European imperialism are both examples of globalization. However, the term usually refers to the increased integration of the global economy since the 1970s. The Eastern Bloc nations that had been under Soviet control suddenly could trade freely with capitalist democracies. India and other countries that had been nonaligned during the Cold War relaxed restrictions on trade in the 1990s. This opening up of a country's economy is called **economic liberalization**.

Ronald Reagan and Margaret Thatcher wanted **free markets**, which are economic systems based on supply and demand, with as little government control as possible. While Reagan and Thatcher were strongly nationalistic, corporations used the shift in emphasis to move jobs to countries with lower wages, lower taxes, and fewer regulations. Critics charged that globalization led to labor exploitation and environmental damage.

Economic Liberalization in Chile In Chile in 1973, **Augusto Pinochet** took power in a U.S.-backed coup against a democratically elected socialist government led by Salvador Allende. Pinochet ruled from 1974 to 1990. Then a coalition of citizens ousted him because of his violent tactics. Indicted for kidnapping, torture, money laundering, and murder, Pinochet died in 2006 before he could be convicted. “We buried our democracy, and we buried freedom,” the Chilean author Isabel Allende said about his rule.

However, during his rule, the Chilean economy took a turn away from state control toward a free-market approach. Among the goals of this approach were privatizing formerly state-run businesses and taming the serious inflation Chile was experiencing. Economists known as the Chicago Boys because they studied under free-market economist Milton Friedman at the University of Chicago helped design Chile’s economic reforms. The reforms were unpopular because they did not address poverty and other social concerns, and Pinochet used repression to enact them. Subsequent administrations, however, guided the economy with a balanced approach, using a combination of economic growth as a result of free trade and government programs to significantly reduce poverty. (Connect: Evaluate the success of the free-market economic approach of both Chile and the Soviet Bloc. See Topic 8.9.)

Chinese Economic Reforms Economic liberalization reached China as well. In 1981, **Deng Xiaoping** became the Chinese leader. Under him, the Communist Party backed away from its commitment to economic equality, and more actively promoted economic growth. Deng called his policy “Let some people get rich first.” The government took several steps to open up the economy, even as it kept overall control:

- It replaced communes with peasant-leased plots of land where the peasants could grow their own crops and sell part of them in markets. This reform led to agricultural surpluses instead of the famines of the past.
- It allowed factories to produce more products for consumers.
- It encouraged foreign companies to set up factories in special economic zones. Foreign firms were attracted to China because of low wages and lax environmental laws.
- It reopened the Shanghai stock market and allowed private ownership of some businesses.

Some Chinese thought that these economic reforms should be accompanied by political reforms, such as freedom of speech and the press and the end of the Communist Party’s monopoly on political power. Political discourse did become somewhat freer than in the past. In 1989, however, a large but peaceful student-led demonstration in **Tiananmen Square** in Beijing was met by force from the government. Soldiers using guns and tanks broke up the demonstrations, killing hundreds of people. (See Topic 9.5.)

Economic Change: New Knowledge Economies

In the late 1900s, revolutions in information and communications technology led some countries to undertake a new kind of economy—the **knowledge economy**. A knowledge economy creates, distributes, and uses knowledge and information. Designers, engineers, teachers, and many others have jobs in the knowledge economy. In the United States, the knowledge economy is evident in the vast stretch of technology companies in Silicon Valley in California, where workers use their knowledge to create ways for other people to use theirs through technology, communication, innovation, and collaboration.

Knowledge Economy in Finland In many cases, knowledge economies have evolved with the explosion of information and communication technology. In knowledge economies, governments and investors put resources into research, education, innovation, and technological infrastructure.

Finland, for example, had been an agrarian economy in the 1950s but followed other European countries in industrializing after World War II. When the Soviet Union collapsed, Finland lost one of its main customers of manufactured goods and faced an economic crisis. In the 1990s, Finland turned a corner by entering the global marketplace, encouraging competition, and establishing the Science and Technology Policy Council to set a direction of economic growth through technology and innovation. Finland experienced great economic growth in this endeavor and led the way in the development of mobile phones. By investing in education and communications technology, Finland was able to build on its success with mobile phones and establish software companies. These industries required highly educated workers, while outsourcing hardware production to countries with lower labor costs.

Japanese Economic Growth Japan followed a somewhat different path. After World War II, Japan implemented economic policies similar to 18th-century mercantilist policies that were designed to increase exports and decrease imports, as well as policies to boost competitiveness:

- To encourage exports, the government coordinated its finance and labor policies with large corporations and gave them subsidies to help them keep their costs low.
- To discourage imports, the government used high tariffs and other trade restrictions on goods made abroad.
- To prepare its citizens to be productive workers, Japan emphasized rigorous education.

These policies, aided by large investments from the United States and other countries, turned Japan into a manufacturing powerhouse.

However, Japan's impressive growth came at a high cost for its consumers. Low-wage workers producing items for foreign markets often could not afford to buy what they made. For example, Japanese-made cars were more expensive

in Japan than they were in the United States. Over time, Japanese unions became strong enough to negotiate higher wages, and international pressure forced Japan to relax its trade restrictions. Japan's economy diversified, and it became a knowledge economy and an international center of banking, finance, and information technology. Although Japan's growth slowed after the 1980s, Japan remained the third-largest economy in the world in 2014, behind only the United States and China.

Closely following Japan's economic model were four states known as the **Asian Tigers**—Hong Kong, Singapore, South Korea, and Taiwan. Like Japan, these states prospered through government-business partnerships, high exports, intense education, and a low-wage workforce. The success of the Asian Tigers and China raised hundreds of millions of people from poverty.

Economic Continuities: Shifting Manufacturing

As the knowledge economy develops in some regions, industrial production and manufacturing in those regions, including in the United States, have declined. Manufacturing plants are increasingly located in Asia and Latin America rather than the United States and Europe. Countries in both Asia and Latin America have become known for their contributions to the textile and apparel industries, though they manufacture many other products. So while it has moved to different regions, manufacturing continues to play a key role in the global economy.

Vietnam and Bangladesh Importers who once purchased their manufactured goods from China have been finding other options in such Asian countries as Vietnam and Bangladesh, where labor costs tend to be significantly lower than in China (where they are already significantly lower than in the United States and Europe). Both Vietnam and Bangladesh have become known for their exports of clothing. In compounds the size of small villages in some places, garment manufacturers—often funded by foreign investors—churn out the clothes that end up on hangers in stores in developed countries. Clothing accounts for 80 percent of exports from Bangladesh. Phones are the largest export from Vietnam, worth about \$45 billion in 2017, with apparel and electronic goods each bringing in \$25.9 billion.

Workers in both Vietnam and Bangladesh have mounted strikes in recent years, protesting both low wages and poor working conditions. Their pay has increased slightly as a result, but not enough to keep up with rising costs of living.

Manufacturing in Mexico and Honduras In 1994, the United States, Canada, and Mexico negotiated **NAFTA**, the North American Free Trade Agreement. This agreement encouraged U.S. and Canadian industries to build **maquiladoras** (factories) in Mexico that used low-wage Mexican labor to produce tariff-free goods for foreign export. Many factories hired large numbers of young women and exposed them to harsh working conditions.



Source: Public Domain

A maquiladora [factory] in Mexico takes raw materials and assembles, manufactures, or processes the material and exports the finished product.

Labor unions in the United States complained that NAFTA led to the export of thousands of U.S. jobs to Mexico, where wages and benefits were lower and safety and environmental standards were weaker.

Honduras in Central America, the second largest exporter of textiles in the Americas, has sought to upgrade its manufacturing using principles of sustainability—recycling or treating its waste materials—and fair labor practices, including housing and education plans for workers, through business-government partnerships. As in Vietnam and Bangladesh, considerable business investment comes from enterprises in South Korea and Taiwan.

Transnational Free-Trade Organizations

Several organizations contributed to the growth of the global economy in the decades following World War II. Some countries joined regional organizations such as the European Economic Community, **Mercosur** (in South America), and the **Association of Southeast Asian Nations (ASEAN)**. Many countries signed an international accord, the **General Agreement on Tariffs and Trade (GATT)**, which lifted restrictive barriers to trade. **Protective tariffs**, which are taxes on foreign imports, had been at a world average rate of 40 percent before GATT. By lowering and eliminating many tariffs, the agreement promoted more international trade and helped restore economic prosperity to war-ravaged Europe. By the 1990s, average tariff rates had sunk below 5 percent, easing the movement of goods across national borders and lowering prices for consumers.

In 1995, the **World Trade Organization (WTO)** took over GATT's operations. The WTO made rules that governed more than 90 percent of all international trade. In part because of its power, the organization became controversial. Its meetings were closed to the public, and its board members represented mostly corporate interests. Also, the organization's rules favored trade over consideration of issues of moral concern. For example, through strict application of WTO rules, a member nation that refused to buy clothing made by sweatshop labor could suffer trade sanctions from the organization.

Multinational Corporations

A **multinational corporation** is one that is legally incorporated in one country but that makes or sells goods or services in one or more other countries. The joint-stock companies of the Commercial Revolution, such as the British East India Company and Dutch East India Company (see Topic 4.5) were the earliest examples of multinational corporations. Multinational corporations were also the business means through which imperialist nations made their wealth during the age of imperialism, exploiting the resources and labor of the colonized regions for profit in home countries.

Today's multinational corporations take advantage of both knowledge economies and more traditional manufacturing and industrial economies. They employ leading edge workers in the knowledge economy—software designers, communications specialists, and engineers—and at the same time hire low-wage workers abroad to make their products. They also have a global market in which to sell their goods and services.

To free-market supporters, multinational corporations produce the greatest gains for both developed and developing countries. For example, in the early 1990s, India opened its markets and allowed in more imports. With its highly educated, English-speaking workforce, India became a software and information technology powerhouse, drawing investments from American and European companies that wanted to outsource jobs and lower labor costs. Multinational corporations, such as **Microsoft** and **Google**, also invested in the Indian economy. The influx of corporate wealth and foreign goods created a thriving consumer culture among India's middle class, the ranks of which swelled tremendously after 2000. In 2014, the Indian middle class was estimated to be the largest of any country in the world, with more than 350 million people.

The India-based multinational corporation **Mahindra & Mahindra**, which produces cars, farm equipment, military vehicles, and electrical energy, is headquartered in Mumbai, India, but has operations not only throughout India but also in South Korea, China, Australia, the United States, South Africa, and other Africa nations. Some multinational corporations are criticized because they lack a strong national identity and therefore do not necessarily adhere to the ethical standards of their home country. They are also criticized for exploiting workers and establishing their operations in such

a way that they avoid as many taxes as possible. Mahindra & Mahindra, in contrast, has received awards for its socially responsible corporate practices and is considered one of the most trusted businesses in India.

In contrast, Swiss-based multinational **Nestlé** corporation, the largest food company in the world, has been the subject of many controversies and criticisms, including purchasing cocoa for its chocolate products from suppliers who use child labor and engage in cocoa production on protected lands. It has also faced criticism for its bottled water business for its attitude toward drinking water as a product rather than a human right. At the same time, Nestlé invests in a number of research programs aimed at sustainable agriculture and training for farmers.

KEY TERMS BY THEME

ECONOMY: World Trade
economic liberalization
free market
Asian Tigers
NAFTA
maquiladora
Mercosur
Association of Southeast
Asian Nations (ASEAN)
General Agreement on
Tariffs and Trade (GATT)
protective tariff
World Trade Organization
(WTO)

GOVERNMENT: Leaders
Ronald Reagan
Margaret Thatcher
Deng Xiaoping
Augusto Pinochet

SOCIETY: China
Tiananmen Square

ECONOMY: Globalization
knowledge economy
multinational corporation
Microsoft
Google
Mahindra & Mahindra
Nestlé



Source: Wikimedia Commons

A Mahindra plant in Mumbai, India

Calls for Reform and Responses

We pledge ourselves to liberate all our people from the continuing bondage of poverty, deprivation, suffering, gender and other discrimination.

—Nelson Mandela (1918–2013)

Essential Question: How have social categories, roles, and practices changed and stayed the same since 1900?

In the age of global economics, global transportation and communication, and global devastation from war, human rights were, for the first time, also elevated to the level of global discourse, which challenged long-held assumptions about race, class, gender, and religion. Efforts to establish and safeguard human rights opened doors of educational and professional opportunity and political participation for some who had previously been excluded. People sought liberation from the “continuing bondage,” in Nelson Mandela’s terms, that had kept them in poverty. People around the globe also began to protest the inequalities and environmental damage that globalization had created or reinforced.

An Era of Rights

In December of 1948, the United Nations laid the groundwork for an era of rights when it adopted a foundational document, the **Universal Declaration of Human Rights**, asserting basic rights and fundamental freedoms for all human beings. It stated that everyone is entitled to these rights without distinctions based on “race, colour [color], sex, language, religion, political or other opinion, national or social origin, property, birth or other status.”

The UN and Human Rights Since its creation, the United Nations has promoted **human rights**, basic protections that are common to all people. As part of its humanitarian work, the UN created the **United Nations International Children’s Emergency Fund (UNICEF)** in 1946 to provide food for children in Europe who were still suffering more than a year after the end of World War II. In 1948, the UN formalized its position on human rights in the Universal Declaration. Since that time, the UN has investigated abuses of human rights, such as genocide, war crimes, government oppression, and crimes against women.

The **International Court of Justice** is a judicial body set up by the original UN charter. It settles disputes over international law that countries bring to it. Also called the World Court, it has 15 judges, and each must be a citizen of a different country. It often deals with border disputes and treaty violations.

Another main aim of the UN is to protect **refugees**, people who have fled their home countries. In times of war, famine, and natural disasters, people often leave their country and seek refuge in a safe location. Working through sub-agencies such as NGOs (non-governmental organizations) and the agency UNHCR (United Nations High Commissioner for Refugees), the UN provides food, medicine, and temporary shelter. Among the earliest refugees the UN helped were Palestinians who fled the disorder when the UN partitioned Palestine to create the state of Israel in 1948.

Global Feminism On January 21, 2017, the day after Donald Trump's inauguration as president, the Women's March on Washington drew about 500,000 demonstrators standing up for women's rights and other concerns. However, the march drew even more power from the millions more demonstrators who took part in locations on every continent around the globe, from Antarctica to Zagreb, Croatia and from Buenos Aires, Argentina to Mumbai, India. As many as five million people stood together that day representing a global solidarity for women's rights. That march was the most dramatic sign of global feminism, but other landmark events since 1900 had done their part to solidify the movement.

Landmark Events in Global Feminism after 1900		
Date	Event	Highlight
March 1911	First International Women's Day Celebration	One million demonstrators in Austria, Denmark, Germany, and Switzerland stand for women's rights
April 1915	Meeting of First International Congress of Women	Representatives from 12 nations, including the United States, attended.
June 1975	United Nations First World Conference on Women	Representatives from 133 nations met in Mexico City and planned for the advancement of women over the next decade.
December 1979	Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)	An "international bill of rights for women" adopted by United Nations
September 1995	Meeting of Fourth International Congress of Women	Thousands of participants and activists met in Beijing, China, where then-First Lady Hillary Clinton declared that "women's rights are human rights."

The 1979 Convention on the Elimination of All Forms of Discrimination Against Women outlined many rights and protections that are cornerstones of global feminism:

- The right to vote and to hold office
- The right to freely choose a spouse
- The right to access the same education as men
- The right to access family planning resources and birth control.

Cultural and Religious Movements Discourse on rights also became part of cultural and religious movements. For example, the **Négritude Movement**, which took root primarily in French West Africa, emphasized pride in “blackness,” the rejection of French colonial authority, and the right to self-determination. **Léopold Sédar Senghor** of Senegal wrote poems about the beauty and uniqueness of African culture and is now regarded as one of the 20th century’s most distinguished French writers. (Senghor later served as first president of independent Senegal.) During the 1920s and 1930s, American intellectuals such as W. E. B. Du Bois, Richard Wright, and Langston Hughes wrote movingly about the multiple meanings of “blackness” in the world. What many now refer to as “black pride” of the 1960s had its roots in the Négritude Movement

Inherent rights became a focus of a religious ideology as well. **Liberation theology**, which combined socialism with Catholicism, spread through Latin America in the 1950s and 1960s. It interpreted the teachings of Jesus to include freeing people from the abuses of economic, political, and social conditions. Part of this liberation included redistributing some wealth from the rich to the poor. In many countries, military dictators persecuted and killed religious workers who embraced liberation theology.

However, advocates of liberation theology had a few notable successes. In Nicaragua, they helped a rebel movement topple a dictator and institute a socialist government. In Venezuela, President Hugo Chávez was deeply influenced by the movement. Then, in 2013, the Roman Catholic Church selected a cardinal from Argentina as pope, the first one from Latin America. The new leader, who took the name **Pope Francis**, reversed the Vatican’s opposition to liberation theology.

Steps toward Gender Equality

During the 20th century, men and women made great strides toward securing some of their rights and participating more fully in professional and political life. In the first part of the century the percentage of women who could read and who attended college increased, and in country after country, women won the right to vote. However, not all the women in a country won the right to vote at the same time. In the United States, for example, white women won

the right to vote in national elections in 1920. Native American and African American women did not have full voting rights throughout the country until the Voting Rights Act of 1965. Britain granted women the right to vote in 1918, but at first only women over 30 who met a property qualification could do so. British women did not achieve the same right to vote as men until 1928. In Australia, white women gained some voting rights in 1894, but aboriginal men and women did not gain the right to vote until 1962.

When Women Won the Right to Vote	
Country	Year
New Zealand	1893
Azerbaijan	1918
Britain	1918
United States	1920
Brazil	1932
Turkey	1934
Japan	1945
India	1947
Morocco	1963
Switzerland	1971
Kuwait	2005
Saudi Arabia	2015

As of 2018, only the tiny country of Vatican City did not allow women to vote. Whether women are able to exercise their vote is another issue. In Pakistan, women gained the right to vote in 1947. However, in 2013, women cast only 10 percent of votes there.

Steps toward Racial Equality

In the United States, African Americans won major victories against discrimination and segregation. Through the 1965 **Civil Rights Act**, which outlawed discrimination based on race, color, religion, sex, or national origin, and the 1965 **Voting Rights Act**, which banned discrimination in voting, the federal government stepped in to protect the rights of all citizens. African Americans also sought equality of education through desegregation of schools.

South Africa's Colonial Legacy South Africa's system of **apartheid**, instituted in 1948, enforced the segregation of people based on race. Although white South Africans made up only 15 percent of South Africa's population, apartheid reserved good jobs and other privileges for them. So-called **pass laws** required black South Africans to carry identity documents when entering areas set aside for whites, which they often had to do when traveling to their

jobs. They were banned from living in certain areas of the country. Mixed marriages were prohibited. Although South Africa had 11 major languages, classes for blacks were taught only in Afrikaans, the language of many of the white South Africans who ruled the nation. These dehumanizing decrees marginalized the 85 percent of South Africans who were black, South Asian, or mixed race.

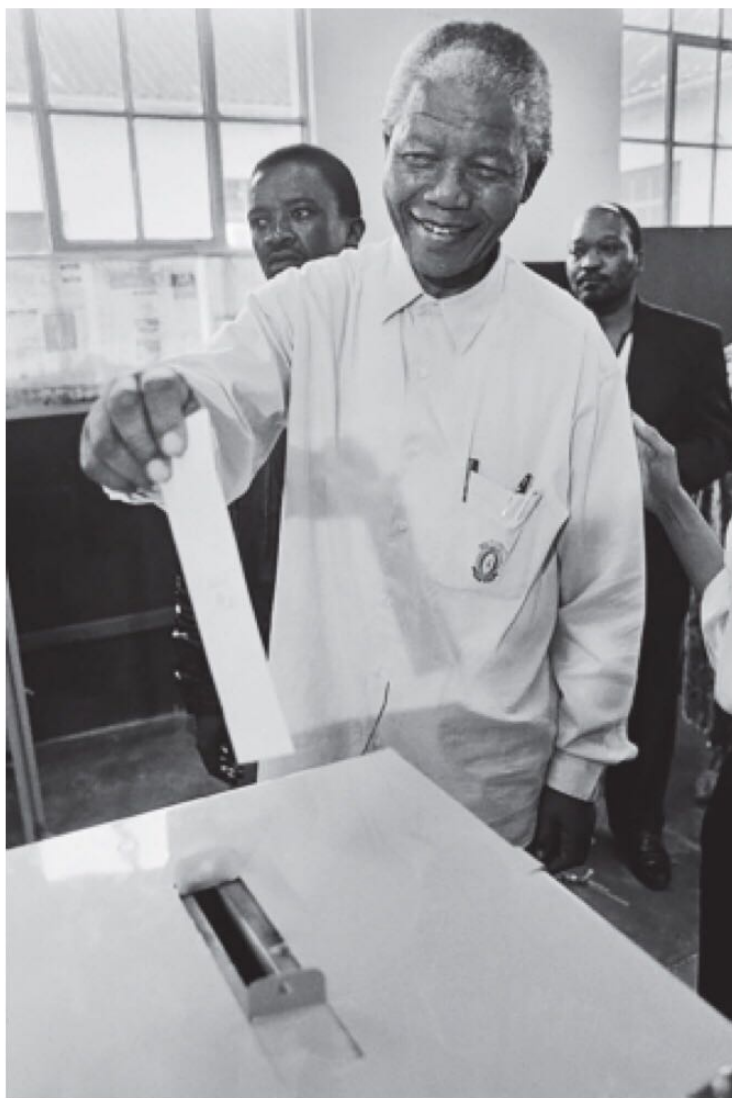
The white-dominated South African government had its basis in European colonization of Africa in general and the Dutch and British colonization of South Africa in particular. The colonizers pushed the native people off the fertile lands and gave them no say in government. South Africans began to demand equal treatment. “I am not interested in picking up crumbs of compassion,” said **Desmond Tutu**, Anglican Archbishop of Cape Town, South Africa, and human rights activist. “I want the full menu of rights.”

Challenges to Apartheid In 1964, **Nelson Mandela**, a leader of the **African National Congress (ANC)**, was imprisoned for life for agitating against apartheid. The ANC’s primary goals were to end white domination and create a multiracial South Africa. Mandela’s imprisonment throughout the 1960s, 1970s, and 1980s inspired a global movement to end apartheid. Black protests in South Africa, which were often peaceful, were crushed violently by the government’s forces. South Africa’s reputation grew worse in the eyes of the global community. Musicians staged concerts calling for Mandela’s release from prison, college students urged universities and corporations to divest from South Africa, and many countries voted for strict economic sanctions against the country. The United Nation expelled South Africa in 1974 because of its apartheid,

As South Africa became a **pariah state** (undesirable state) in the 1980s, its leadership began to take notice. Mandela himself began negotiations with the government in 1986 while still in prison. In 1989, **F. W. de Klerk** became the nation’s acting president. He recognized the need for change. Within six months, de Klerk announced Nelson Mandela’s release from prison.

Although euphoria was high in the weeks following Mandela’s release, apartheid remained the law of the land. Police violence against protesters persisted, which stalled negotiations between Mandela and de Klerk. However, a series of reforms in the 1990s ended apartheid. In 1994, South Africa held its first free elections and rejoined the United Nations. The African National Congress won the majority of the seats in the Parliament. The Government of National Unity was established with ANC members in the majority. On May 10, 1994, Nelson Mandela was sworn in as president, South Africa’s first black leader.

Uniting South Africa Immediately the Government of National Unity set up the **Truth and Reconciliation Commission (TRC)**. Unlike the Nuremberg Trials that sought retribution for crimes against humanity committed by Nazis during World War II, the TRC sought to restore and establish an atmosphere of trust in the new multiracial South Africa. The TRC organized a series of 19 public hearings designed to expose the truth of human rights violations that



Source: Wikimedia Commons

Nelson Mandela voted for the first time in 1994, at age 76. In that year, he was selected as president of South Africa.

had occurred during apartheid, while at the same time granting amnesty to members of the apartheid regime who agreed to testify.

Caste Reservation in India The fight for civil rights was also a global effort as people from different races and social classes began to demand equality. In India, the 1949 Constitution outlawed discrimination against the *Dalits*, also known as untouchables. Pakistan outlawed discrimination against Dalits in 1953. Before then, many people believed that being touched by a Dalit required the person who was touched to undergo a cleansing ritual. People in India and Pakistan continued to discriminate against Dalits until well into the 21st century.

To open doors of opportunity to social groups or castes that had faced historical discrimination, the government of India established the **caste reservation system**. Through this system, the government guaranteed that a certain percentage of government and public sector jobs and enrollment in higher education would be set aside for people whose caste had conferred an underprivileged life.

Human Rights Repression in China

After the economic reforms of the late 1980s and 1990s, China quickly became an economic powerhouse. The economic liberalization, however, was not matched by democratic reforms. The Chinese Communist Party (CCP) ruled the People's Republic with an iron fist. It censored the news industry and controlled what students were taught in primary and secondary schools. Such practices limited freedom of speech and thought. The CCP also required all nonstate organizations and groups to register with the government. International nongovernmental organizations (NGOs) were not free to operate in China unless they were willing to undergo strict regulation. Opposition political parties did not stand a chance in China's governing system, although some debate was allowed in the legislative process. Overall, however, the governing system was designed to thwart all challenges to the CCP's authority.

How could the CCP have such power? The Communists had controlled China since 1949. The government owned and controlled all industries. Government officials had killed or imprisoned those who had spoken out against previous government actions, such as the Great Leap Forward.

Tiananmen Square Chinese intellectuals and students had a history of protesting against their government based on the May Fourth Movement in 1919. In the spring of 1989, pro-democracy activists organized a public event mourning the death of a sympathetic high official. The protesters demanded a chance to speak with Chinese leaders about freedom of the press and other reforms. After the Chinese government refused to meet with the activists, citizens in more than 400 Chinese cities staged sit-ins, refused to attend classes, and began hunger strikes. Hundreds of thousands of students, professors, and urban workers staged a massive protest in Beijing's Tiananmen Square. After seven weeks of protests, the government declared martial law. It sent troops armed with tanks and assault weapons into Beijing. Citizens responded by setting up barricades to block the troops.

On June 4, 1989, the army arrived in Tiananmen Square and attacked the unarmed protesters. The Chinese government claimed that nobody died in Tiananmen Square that day. No mention of the event was included in school texts, and the government blocked all Web sites that discussed the Tiananmen Square incident and human rights abuses in China. However, estimates by Amnesty International, the International Red Cross, and the *New York Times* indicated that anywhere from several hundred to a few thousand civilians were killed. As Chinese officials continue to describe the Tiananmen event as a western conspiracy, Tiananmen mothers are prohibited from openly mourning family members who died in June 1989. The government still imprisons those who commemorate June 4. (Connect: Analyze the methods of protest at Tiananmen Square and the May 4th Movement. See Topic 7.5.)

Minority Rights in China The communist government in China has struggled with the demands of the nation's 55 ethnic minorities. Some prominent examples were calls by Tibetans for more autonomy or independence

and the complaints of the Uighur people concerning religious and political discrimination in the northwest province of Xinjiang.

In 2011, some of the Mongolian people in China protested against the high number of Han Chinese who had moved into Inner Mongolia, an autonomous region of northern China, and disrupted their pastoral way of life. The Han are the largest ethnic group in China and worldwide. The Mongolians protested the environmental damage that came with settled agriculture, strip-mining of coal, building of highways, damming of rivers, and overgrazing of land.

Steps toward Environmental Repair

People realized that part of securing their rights in a globalized world is to claim their environmental rights to clean water and air and a sustainable planet with biodiversity. A number of organizations try to identify and achieve goals toward guaranteeing those rights.

Earth Day Starting in 1970, citizens in the United States designated April 22 each year as **Earth Day**, a day for people to focus on environmental awareness. Organizers hoped to highlight recycling, developing alternative energy, eating locally grown and organic foods, and passing antipollution legislation. Today, about 174 countries observe and participate in Earth Day activities with the Earth Day Network, an environmental advocacy group.

Greenpeace Founded in 1971 as an organization to advocate for the environment, **Greenpeace** grew into a multinational agency with offices in more than 55 countries. It battles deforestation, desertification, global warming, the killing of whales, and overfishing. Greenpeace has engaged in lobbying and education, but it became famous for its direct actions, such as confronting whaling boats in the ocean.

Green Belt Movement In 1977, Kenyan activist **Wangari Maathai** founded the **Green Belt Movement**, a direct response to the environmental degradation resulting from the colonial experience. Women in rural Kenya were reporting that streams were drying up and their food supply was unpredictable. The Green Belt Movement helped women work together to plant trees to improve the soil and collect rainwater. More than that, however, Dr. Maathai and the Green Belt Movement helped women see their capacity for making changes through participation in public life rather than leaving decisions to others.



Source: Wikimedia Commons

In 2004, Maathai won the Nobel Prize for Peace, becoming the first African woman to do so. “We are called to assist the Earth to heal her wounds and in the process heal our own,” she said.

Steps toward Economic Fairness

To counterbalance the strictly commercial interests of the powerful World Trade Organization (see Topic 9.4), organizations from around the world combined resources to create the World Fair Trade Organization (WFTO) in 1989. Member organizations subscribe to the following 10 principles of fair trade, and the WFTO monitors its members to make sure they follow these principles.

World Fair Trade Organization Principles of Fair Trade

1. Creating Opportunities for Economically Disadvantaged Producers
2. Transparency and Accountability
3. Fair Trading Practices
4. Payment of a Fair Price
5. Ensuring no Child Labor and Forced Labor
6. Commitment to Non Discrimination, Gender Equity and Freedom of Association
7. Ensuring Good Working Conditions
8. Providing Capacity Building
9. Promoting Fair Trade
10. Respect for the Environment

KEY TERMS BY THEME

SOCIETY: Leaders and Thinkers

Nelson Mandela
 Negritude
 Leopold Senghor
 Pope Francis
 Liberation Theology
 W. E. B. DuBois
 Desmond Tutu
 F. W. de Klerk
 Wangari Maathai

ENVIRONMENT: Actions

Earth Day
 Greenpeace
 Green Belt Movement

GOVERNMENT: United Nations

Universal Declaration of Human Rights
 United Nations International Children's Emergency Fund (UNICEF)
 International Court of Justice

GOVERNMENT: Power and Control

human rights
 refugees
 Civil Rights Act
 Voting Rights Act
 apartheid
 pass laws
 African National Congress (ANC)
 pariah state
 Truth and Reconciliation Commission (TRC)
 dalits
 caste reservation system
 Tiananmen Square

Globalized Culture

What is interesting is the power and the impact of social media. . . . So we must try to use social media in a good way.

—Malala Yousafzai, Pakistani human rights activist (born 1997)

Essential Question: How has globalization changed culture since 1900?

At the start of the 20th century, political and social developments led to new directions in the arts. Writers, painters, and musicians developed **modernism**, a rejection of tradition in favor of experimentation and uncertainty. World War I, a global depression, and World War II had focused attention on survival. After World War II, however, citizens of wealthier nations began to develop a **consumer culture**—one in which people tended to focus more on what they bought and owned than on where they lived, what they did for a living, or what they believed. As trade restrictions loosened and new technology became more widely available, people worldwide began sampling arts, popular culture, and ideas from faraway countries. However, few could predict the global connectedness made possible by social media, nor its power to do both good and ill.

Political, Social, and Artistic Changes

Change was everywhere at the start of the 20th century. In just about every main field of human endeavor, new perspectives and discoveries were redefining the way people thought about their social and physical environments. Key political changes also helped shape society.

Political Changes At the beginning of the 20th century, imperialism was creating sometimes fierce competition among nations. Two world wars raised the conflict to the level of deadly force, although allies standing together developed a good working relationship and understanding of one another. The Cold War divided much of the world into camps, stressing differences rather than commonalities. After the Cold War, however, both economic and cultural barriers fell, bringing countries closer together. In some key ways, collaboration gradually replaced competition as nations formed cooperative regional organizations such as the European Union and NAFTA as well as global associations such as the United Nations for conflict resolution and the World Trade Organization to regulate international trade.

Social Changes Along with these changes came social changes. International organizations and collaboration brought people of different cultures into closer contact with one another, just as international exchanges had done in the past. Rights movements—civil rights and women’s rights especially—helped bring formerly marginalized voices into the mainstream conversation.

People were also questioning long-held beliefs about humans and their environments. Albert Einstein (1879–1955) and other scientists upended people’s understanding of physical reality. Sigmund Freud (1856–1939) probed the invisible inner workings of the human psyche. Jean-Paul Sartre (1905–1980) philosophized that nothing had meaning. Technological developments in communication, transportation, and medical and other scientific knowledge brought change after change—from horses to cars, from telegraph to radio, from antibiotics to vaccines.

Artistic Changes These changes were reflected in the visual arts, literature, and music of the time. Cubism, a style Picasso used in his famous painting “Guernica,” challenged traditional perspective in the visual arts (See Topic 7.4.) Stream-of-consciousness writing by such authors as Marcel Proust (1871–1922) and James Joyce (1882–1941) rebelled against traditional narrative forms, and atonal music such as that composed by Arnold Schoenberg (1874–1951) explored musical expression outside of familiar tonalities, to name just a few examples. Many scholars suggest these expressions were a response to the mechanized, urbanized society widespread in the early 1900s.

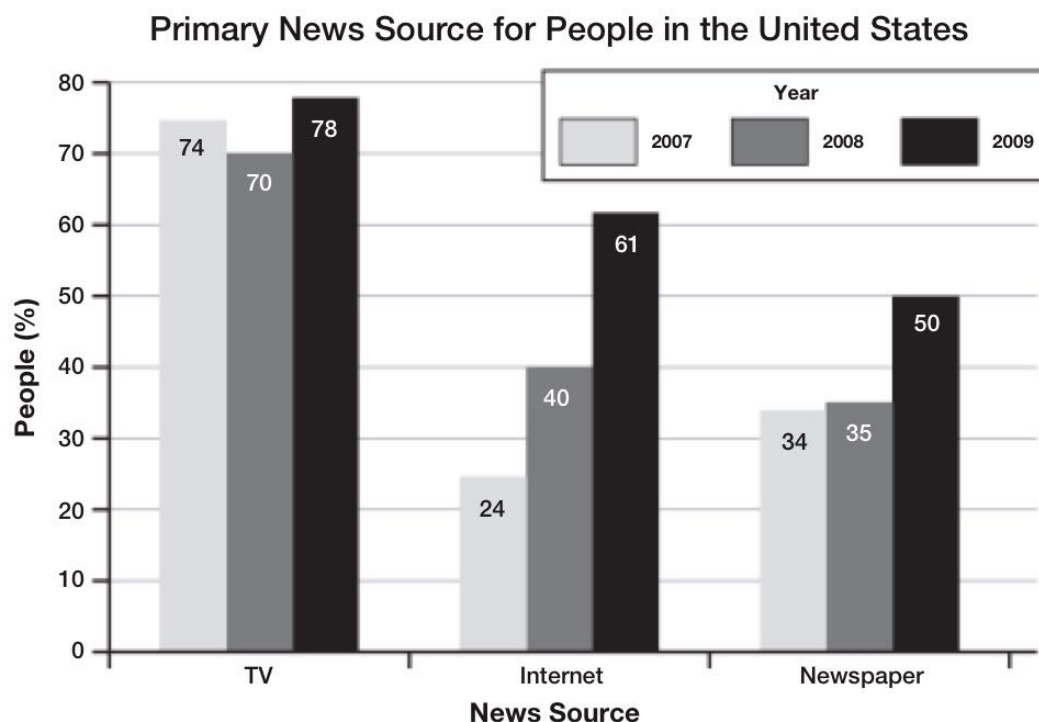
An especially vibrant expression of 20th century perspectives was the Harlem Renaissance, a “rebirth” of African American culture as it sought to distance itself from the stereotyped portrayal of African Americans in literature and onstage. During the Harlem Renaissance, writers, poets, musicians, and social activists made Harlem a thriving center of energy for black artistic expression. Jazz emerged and became an international language.

Global Consumer and Popular Culture

In the 1920s, **popular culture**—the culture of everyday people rather than the educated elite—expressed itself through new media: radio and motion pictures. Radio, movies, and later television created a culture shared throughout a nation, and eventually throughout the world. Radio provided a variety of programs, from easy-going comedies to music hours featuring the latest in big band entertainment, and during World War II it played a vital role in national defense in most industrialized nations. Movies provided relief from the anxieties and pressures of the Great Depression while reflecting it in its themes. Charlie Chaplin’s “Little Tramp” character of silent movies epitomized the down and out.

Radio and television also ushered in the consumer culture that characterized much of the developed world after World War II. The “free” programming reaching into the homes of millions of people carried with it commercials

for the products of sponsors. Industry turned from wartime production to the manufacture of consumer products, and people around the world were eager to buy. In the 1990s, the internet connected people around the globe.



A shift toward online-only sources took place as media outlets set up large online presences.

Source: Pew Research Center for the People.

In the early 21st century, the United States remained the world's most influential culture. Through **Americanization**, people the world over learned more about the United States than Americans learned about the rest of the world. This dominance of the United States created resentment among those who felt that American popular culture diluted their unique cultural identity. In the early 21st century, many people around the world considered American consumer culture to be **throwaway culture**. They objected to the waste and pollution that was part of the focus on newer, cheaper, more disposable products.

English Spreads and Changes Through the influence of the British Empire and through American movies, corporations, and scientific research, English became a second language in much of the world. In the early 21st century, about 300 million people in China were learning English—which was about the same as the population of the United States.

Many English-speaking corporations moved their call centers to India and the Philippines, where there were large numbers of fluent English speakers who would work for relatively low wages. As more people from other countries learned English, they spoke it in new ways. For example, Indian English included the word *prepone*, which meant the opposite of *postpone*.

Global Brands and Commerce As multinational corporations advertised and distributed their products, **global brands** such as Apple, Nike, and Rolex emerged. A company called Interbrand names the top global companies each year based on financial performance, ability to influence consumer choice, and ability to command a premium price. The 2018 winners included Toyota, which sells more cars than any other brand; tech giants Apple, Google, Amazon, Microsoft, and Facebook; and the company that famously announced its desire to “buy the world a Coke” in its 1971 multicultural commercial, Coca-Cola.

Online commerce makes shopping a global affair as well. Sites such as Amazon (in more than 17 countries) and Alibaba (mostly in Asia) make a massive selection of items available. The online auction site eBay operates in 30 different countries. Although their platform is international, these online retailers must pay a variety of sales taxes according to the laws of each country or state in which they sell products. (Connect: Write a paragraph comparing Americanization in the 21st century with assimilation in the 19th century. See Topic 6.3.)

Global Influences on Popular Culture Although the United States is still the dominant culture internationally, influences from other cultures have been welcomed in the United States and elsewhere. For example, Indian musicals made in **Bollywood**, the popular name given to the film industry in Bombay (Mumbai), enjoy popularity worldwide. Bollywood itself is a blend of film styles. India makes more films than any other country.

A style of Japanese hand-drawn animation known as **anime** became hugely influential. In 2016, 60 percent of the world’s animated TV shows were based on anime. Anime was introduced to American culture in the 1980s through the movie *Akira*. Television shows in the late 1990s, such as *Pokémon* and *Dragon Ball*, brought anime into the American mainstream.

Reggae music from Jamaica is global in both its origins and its popularity. It emerged in the 1960s, blending New Orleans jazz and rhythm and blues styles with mento, itself a fusion of African rhythms and European elements. It is associated with the Rastafari religion which promotes Pan-Africanism, the connectedness of all Africans whether they live in Africa or in the diaspora. It often blended with musical traditions of other countries as its popularity became global in the 1970s through the music of Bob Marley.

Another style of music that fused a variety of traditions and became a global hit was the Korean music nicknamed **K-pop**. Its artists, who sang in a mixture of Korean and English, became global stars in the early 21st century. Their popularity has also boosted the popularity of other South Korean exports. In fact they are considered so valuable that the government has invested in K-Pop concerts and tours. Internet-based **streaming video** sites such as YouTube and Vimeo helped popularize K-Pop and other musical styles with a global audience.

Social Media and Censorship Facebook, Twitter, Snapchat, and other forms of **social media** changed communication. They can inspire but also manipulate, as attested to by **Malala Yousafzai**, the Pakistani activist and the youngest Nobel Prize laureate. People debated their power for good or ill.



Source: Thinkstock

Since Olympic athletes represent their home nations, the games demonstrate the strength of nationalism. However, since the Olympics draws people together from nearly every country in the world, it is also an example of internationalism.

In some countries, such as China, the government banned social media from outside the country. However, China allowed its own forms of social media, including WeChat, Weibo, and YuKu. The government censored any criticism of the Communist Party that appeared on these platforms.

Global Culture in Sports The globalization of popular culture included sports as well. The establishment of the modern **Olympic Games** in 1896 reflected an early sense of internationalism. In 2016, the Olympics in Rio de Janeiro, Brazil, attracted about 3.6 billion viewers worldwide.

Soccer emerged as the most popular sport in the world, in part because it required so little equipment that it could be played almost anywhere. The **World Cup** soccer competition rivaled the Olympics as a global event. Basketball also became a global game, and players such as Michael Jordan and LeBron James became internationally known. In 2014, the National Basketball Association (NBA) included players from 30 countries or territories. In 2017, reporters from 35 countries covered the NBA Finals. In 2018, 27 percent of major league baseball players were foreign-born, from 21 different countries.

As sports became more popular globally, they also became more available to women. Some Muslim female athletes—including fencers, weightlifters, beach volleyball players, hockey players, and figure skaters—competed while wearing hijab, known in English as a headscarf. They adapted athletic wear so they could compete while following traditional Muslim practices regarding female modesty in clothing. Hajar Abulfazi, a soccer player from Afghanistan, explained that she wore the hijab to “show the next generation and their parents how Afghan women and girls can maintain respect for religion and culture while pursuing sports achievements.”

Global Culture and Religion

Globalization promoted new religious developments. In the 1970s, former Beatles band member George Harrison released a song containing the words of a Hindu mantra, or sacred utterance. This launched the popularity of the **Hari Krishna** movement, which was based on traditional Hindu scriptures. It quickly gained popularity in the United States and Europe. In what some called **New Age** religions, forms of Buddhism, shamanism, Sufism, and other religious traditions were revived and adapted for a largely Western audience.

In China in the 1990s, **Falun Gong**, a movement based on Buddhist and Daoist traditions, gained popularity. Although the communist government allowed the movement at first, Chinese authorities began to restrict it in 1999. The suppression prompted international protests against the Chinese regime for human rights abuses.

In the early 21st century, most people around the world identified with some form of religion. However, an increasing number of younger people in many countries identified as **nonbelievers**. They were not necessarily atheists (people who do not believe in any god) or agnostics (people who believe that it may not be possible to know if God exists). Most were simply not affiliated with any religious institution.

KEY TERMS BY THEME

SOCIETY: Belief Systems

Hari Krishna
New Age
Falun Gong
nonbelievers

CULTURE: Sports

Olympic Games
World Cup
National Basketball
Association (NBA)

CULTURE: Arts

consumer culture
modernism
popular culture
Bollywood
anime
reggae
K-pop

SOCIETY: Influences

Americanization
Malala Yousafzai
throwaway culture

TECHNOLOGY: Commerce and Entertainment

global brand
streaming video
online commerce
social media

Resistance to Globalization

The whole of the global economy is based on supplying the cravings of two percent of the world's population.

—Bill Bryson, nonfiction writer (born 1951)

Essential Question: What were the various responses to globalization from 1900 to the present?

While globalization of culture has in many ways raised awareness and appreciation of cultural diversity, the economics of globalization have led to serious concerns. Resistance to globalization has come from non-governmental and governmental sources. A network of opponents to economic globalization promotes equal distribution of economic resources, challenging the lopsided economy described above by author Bill Bryson. Participants contend that corporations and global financial institutions, such as the **International Monetary Fund (IMF)** and the World Trade Organization (WTO) work to maximize profit and sacrifice safety and labor conditions, environmental conservation needs, and national independence.

Some countries, such as North Korea, have resisted economic and cultural globalization. Others, such as Saudi Arabia and China, have resisted cultural globalization, particularly through controlling the internet. These countries want goods and money to flow freely among nations, but they are more restrictive of how people and ideas cross borders.

The Roots of Globalization and Anti-Globalization

Globalization affected the relationships among and within nations. After World War II, several organizations contributed to the growth of a global economy. The General Agreement on Tariffs and Trade (GATT), the European Economic Union, Mercosur (in South America), and the Association of Southeast Asian Nations (ASEAN) all formed between 1947 and the early 1990s. These organizations were meant to help economies and expand prosperity. Falling tariff rates eased the movement of goods across national borders.

In 1995, the World Trade Organization (WTO) took over GATT's operations. The WTO makes rules for more than 90 percent of international trade. The rules and its closed board meetings led people to believe that the WTO did not care for their welfare. (Connect: Compare the economic practices of the 17th century to globalization in the 20th and 21st centuries. See Topic 4.5.)

The “Battle of Seattle” In 1999, protests erupted at a WTO conference in Seattle. The WTO had planned a round of trade negotiations for the new millennium. Then more than 40,000 protesters arrived. Special interest groups, including labor unions, family farmers, student groups, and environmentalists shut down the WTO’s meeting and drew global attention to the issues of the new global economy. Anti-WTO demonstrations took place in dozens of other countries as well.

Many people consider the Seattle protests to be the beginning of the anti-globalization movement. They were also one of the first social movements to be coordinated through the internet. However, the WTO itself remained powerful. China joined in 2001, increasing the group’s territorial and economic reach.



Source: WTO protestors (1999)

The “Sea Turtle” protesters outside the 1999 World Trade Organization Conference in Seattle, Washington.

Why Resist Globalization?

Why did people protest globalization when it made goods and services more freely available? Opponents had different reasons. Many of them centered on the idea that consumers who buy products and services with a few clicks often have no idea who creates those products and services and what the short-term and long-term costs really are. A series of scandals in different parts of the world showed some of the hazards of globalization. Working conditions are especially problematic

- Much of the chocolate that consumers bought in the early 21st century had its origins in **child labor** in West Africa. The largest chocolate companies missed deadlines in 2005, 2008, and 2010 to make sure their suppliers did not use child laborers. In 2015, the U.S. Department of Labor estimated that more than 2 million children took part in dangerous labor in the cocoa-growing regions of the world.

- Working conditions in Western nations could also be harsh. In 2019, employees of **Amazon**'s warehouses described such intense pressure to fulfill orders that workers risked being fired if they took a bathroom break. At the time, Amazon employed more than 600,000 people and another 100,000 at holiday time, though not all of them worked in warehouses.
- In 2013, the collapse of the **Rana Plaza factory**, an eight-story building in Dhaka, Bangladesh, shocked the world. More than 1,000 people died and another 2,500 suffered injuries. Most of the dead and injured were female garment workers who made clothing for Western companies. **Muhammad Yunus**, a Bangladeshi who won the Nobel Prize for Peace, called the disaster "a symbol of our failure as a nation." He suggested that companies worldwide set an international minimum wage.



Source: Wikimedia Commons

The Rana Plaza collapse is considered the deadliest structural failure accident in modern human history, and therefore also the deadliest garment-factory disaster in history.

Environmental Damage Critics of globalization pointed out that the fuel involved in shipping products vast distances increased the amount of greenhouse gases in the environment, thus worsening the climate emergency. Also, in the early 21st century, Brazil cut down thousands of square miles of rainforest each year to make way for cattle farms. The meat was one of the country's most valuable exports.

Proponents of globalization argue that it can help the environment. They point out that Costa Rica and other nations have developed **ecotourism** industries that make profits while showing off the country's natural wonders.

Threats to National Sovereignty Many liberal groups believe that globalization often harms children, workers, and the environment. However, many conservative groups also distrust globalization.

In 2016, 52 percent of British voters agreed to leave the European Union, an international political and economic organization of 28 countries. This British exit was nicknamed **Brexit**. Britain was a founding member of the EU in 1993, but conservative British politicians argued that the EU interfered with Britain's right to govern itself. Many Brexit proponents contended that the EU required Britain to accept too many immigrants.

Negotiations to leave the EU broke down when British prime minister **Theresa May** was unable to craft a deal that was acceptable to her own political party, let alone to the other 27 nations in the EU. May resigned in 2019. Brexit critics believed that leaving the EU would be economically disastrous for Britain, an island nation that depended on imports.

Economic Resistance

Critics of globalization believe that international agreements and institutions can destroy small local businesses. Large corporations could use the International Monetary Fund (IMF) and the WTO to achieve their goals, but local individuals and businesses could not. For example, many small businesses and individuals could not cross state lines or national borders. They could not extract the natural resources they needed or use the wide variety of labor sources that big corporations and transnational businesses used. In an attempt to combat globalization, some businesses, especially restaurants, have insisted on providing their customers locally grown or made products.

Globalization critics also distrusted the World Bank, an international organization affiliated with the United Nations. The bank's mission is to improve the economic development of member states. In 1988, about 20,000 people protested meetings of the IMF and the World Bank in West Berlin. Protesters insisted that these agencies favored richer nations over poorer ones. In 2001 and 2002, anti-IMF and anti-World Bank protests took place in 23 countries, including many of the world's poorest nations. In 2014, the World Bank made reforms to its structure and governance, but critics maintained that the world's richest nations controlled the bank.

What Measures Do Anti-Globalists Favor? The anti-globalization movement has grown into a social movement as well. Its followers tend to focus on these issues:

- **Human rights**, which are basic freedoms that every person has, such as freedom from slavery and freedom to express opinions

- **Fair trade**, which is a system that ensures the person who provided the good or service receives a reasonable payment for it
- **Sustainable development**, which means business ventures that allow people and companies to make a profit without preventing future generations from meeting their own needs
- **Debt relief** or **debt restructuring** so that countries that owe huge sums to the IMF do not have to risk economic breakdown

Anti-Globalization and Social Media

Anti-globalization activists have used the internet to perpetuate and spread their ideas in nearly every country on Earth. However, access to global communication through social media outlets has met resistance in some countries. In 2009, more than 1,000 rioters clashed with police in the city of Urumqi, China. The unrest resulted from tensions between members of the Han ethnicity and members of the **Uighur** ethnicity, most of whom are Muslim. Chinese authorities blamed the riots on the growth of social unrest based on Twitter and Facebook and banned both platforms. The government introduced a new platform called **Weibo** as a substitute. It could stream incoming posts while tracking and blocking “sensitive” content. Weibo has become a vehicle of negotiation between the Chinese government and its citizens.

In some other countries, governments allow social media platforms but influence or control their content. For example, critics contend that Saudi Arabian officials use Twitter and Facebook to harass and intimidate citizens. “If the same tools we joined for our liberation are being used to oppress us and undermine us, and used to spread fake news and hate, I’m out of these platforms,” explained **Manal al-Sharif**, a women’s rights activist.

In some parts of the world, resistance to participating in an interconnected society persists. The coming together of economies and cultures threatens some people’s and governments’ sense of autonomy and identity.

KEY TERMS BY THEME

SOCIETY: Leaders and Thinkers

Muhammad Yunus
Theresa May
Manal al-Sharif

SOCIETY: Issues and Problems

child labor
Rana Plaza factory

ecotourism
human rights
fair trade
sustainable development
debt relief
debt restructuring

GOVERNMENT: Politics

Brexit
Uighur

TECHNOLOGY: E-Commerce and Social Media

Amazon
Weibo

Institutions Developing in a Globalized World

We have actively sought and are actively seeking to make the United Nations an effective instrument of international cooperation.

—Dean Acheson, U.S. diplomat, (1893–1971)

Essential Question: How did globalization change international interactions between states after 1900?

In an era of increasing globalization, people formed international organizations to promote useful working relationships among nations. Dean Acheson, a U.S. secretary of state, described how the mission of the United Nations (UN) fit with this goal of maintaining world peace and making international cooperation easier. Working through agencies such as the IMF (International Monetary Fund) and the World Bank, the UN provides technical advice and loans to developing nations. Other international organizations and treaties, such as the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT), promote free trade worldwide. However, the United Nations was born of the devastation of world wars and preventing conflict was its primary goal.

The United Nations: A Structure for Peace

Despite ideological differences, the Allies shared a commitment to preventing conflicts from escalating into war. In 1943, representatives of the United States, Great Britain, the Soviet Union, and China discussed the idea of the United Nations. The UN was born on October 24, 1945, a day still honored as United Nations Day. At its founding, there were 51 member states. By 2019, that number had grown to 193.

League of Nations vs. United Nations Countries had tried to create a similar international organization previously. In 1920, at the end of World War I, the Allied powers created the League of Nations. (See Topic 7.3.) Its purpose was to resolve international disputes and prevent another world war. However, the United States never joined the League. Some Americans believed that doing so would undercut U.S. authority. The League disbanded after it failed to prevent World War II. Countries hoped that a new, more powerful organization would

help keep the peace. This time around, all the major powers realized they would need to belong for the organization to have any chance of success.

Assemblies of the United Nations

Within the UN, six main bodies implement its work.

- The **General Assembly** is the only UN body in which all members have representation. It decides important questions on peace and security, admission of new members, and budget. To make a decision, a two-thirds majority of those present and voting must agree. Each member nation has one vote.
- The **Security Council** acts on issues the General Assembly debates. It may even use military force against a country accused of violating UN principles. The Security Council has five permanent members, the leading Allies of World War II: the United States, France, Great Britain, Russia, and China. It elects 10 other members on a rotating basis. Each permanent member has veto power in the Security Council. Granting veto power to these five nations was controversial in 1945. Other nations resented giving them so much power. Conflicts among these five often prevented the UN from taking action to confront problems.
- The **Secretariat** is the UN's administrative arm. The secretary general leads and influences the entire organization. He or she usually comes from a small, neutral nation so one of the more powerful countries cannot have an outside influence on what the UN does. All five permanent members of the Security Council must approve the secretary general's selection. Staffers of the Secretariat must take an oath of loyalty to the UN and are not allowed to receive instructions from their home countries.
- The International Court of Justice settles disputes countries bring to it about international law. The court has no power to enforce its decisions, but the Security Council may make recommendations or take action in response to a judgment. Most countries obey the court's decisions.
- The Economic and Social Council is the largest and most complex part of the UN. It directs economic, social, humanitarian, and cultural activities. In the early 21st century, the council promoted green energy and looked for ways to raise people's wages in poorer countries.
- The Trusteeship Council supervised the governments of trust territories, including land that is now Israel, Papua New Guinea, and Nauru. The council's mission was to help those areas become self-governing and independent. The last trust territory, Palau, became independent in 1994. Since then, the council has suspended its operations. Some people have suggested that the council should become trustees of the seafloor or of outer space.

The UN and Human Rights

One of the goals of the United Nations was the promotion of human rights. The UN adopted the **Universal Declaration of Human Rights** in 1948. It included several basic rights and freedoms:

- freedom from slavery, torture, and degrading punishment
- equality before the law
- the right to a nationality
- the right to own property, either individually or with others
- freedom of thought, conscience, religion, opinion, and expression
- equal pay for equal work
- the right to rest and to enjoy paid holidays
- equal rights for children born within and outside of marriage
- the right to adequate food, clothing, shelter, health care, and education

The declaration was a milestone achievement. Individuals from different countries, cultures, and legal traditions came together to draft a document that set standards for all governments and all people. People have translated the declaration into more than 500 languages. Since 1948, the UN has investigated abuses of human rights, such as genocide, war crimes, government oppression, and crimes against women.

Keeping the Peace

Since the end of World War II, the United Nations has been well known for its **peacekeeping** actions. Of primary importance is prevention through diplomacy. The UN sends special envoys to help resolve problems peacefully, mindful that it was formed to prevent “the scourge of war.”

The organization has also frequently sent peacekeeping forces, consisting of civilians, police, and troops from member countries, to try to ease tensions in trouble spots. The first peacekeeping mission was related to the 1948 Arab-Israeli conflict in Palestine. After that, UN peacekeepers served in the Congo, Lebanon, East Timor, and the Balkans.

Expansion in the 1990s In 1988, the UN had only five active peacekeeping operations. By 1993, it had 28. Individual countries supplied soldiers to form UN peacekeeping forces. They came from dozens of countries—including Canada, Venezuela, Ukraine, Egypt, and Bangladesh. The soldiers were usually lightly armed and instructed to return fire only if attacked.

In the 1990s, the United Nations sent peacekeeping missions to hotspots in Africa, Central America, the Caribbean, and Southeast Asia. In Africa, UN troops kept peace while Namibia changed from a South African colony to an independent state. Peacekeeping troops helped end devastating civil wars in

Mozambique, El Salvador, and Cambodia. In Haiti, they maintained peace while a democratic government replaced a military dictatorship.

Some efforts failed. In 1994, UN peacekeepers could not prevent massacres in Rwanda. In 1995, UN forces withdrew from Somalia while a civil war raged there. The struggle to bring order to Bosnia in the former Yugoslavia took years and had mixed results. As a UN officer in Bosnia observed, “It’s much easier to come in and keep peace when there’s some peace around.”



Source: Wikimedia Commons

UN peacekeepers at their headquarters in Kinshasa, Democratic Republic of the Congo, where violent conflicts continue to break out following a civil war (1997–2003) that killed 5 million.

Challenges for Peacekeeping Missions One problem faced by UN peacekeepers has been their slow response. By the time countries agree on the UN mission and send forces, the war might have grown and become hard to control. A second problem happens when people expect the peacekeeping troops to stop the fighting instead of simply monitoring a truce, running free elections, and providing supplies to civilian populations. By 2019, the United Nations was involved in fewer but larger peacekeeping missions. The number of missions had dropped to 15, but the number of troops involved had increased.

Number of UN Peacekeepers Deployed	
Year	Number
2000	30,000
2007	80,000
2014	95,000
2019	102,000

Source: Global Peace Operations Review.

Other UN Priorities

In addition to assemblies and peacekeeping, the UN has other missions.

Protecting Refugees The UN also protects refugees. In times of war, famine, and natural disasters, people often flee their country and seek refuge in a safer location. Working through partners such as NGOs (non-governmental organizations) and the agency of UNHCR (United Nations High Commissioner for Refugees), the UN provides food, medicine, and temporary shelter. Among the earliest refugees the UN helped were Palestinians who fled the disorder following the UN partition of Palestine to create the state of Israel in 1948. In 2019, the UN helped refugees who fled Venezuela and Myanmar.

Feeding the Hungry In 1961, the UN established its **World Food Program (WFP)** to provide food aid. Its first missions were in Iran, Thailand, and Algeria in 1962. Since its founding, the WFP has fed more than 1.4 billion people, many of whom were affected by natural disasters or political unrest.

Supporting Education, Science, and Culture Fighting in World War II destroyed schools, libraries, and museums in many European countries. In 1945, the UN created the **United Nations Educational, Scientific, and Cultural Organization (UNESCO)**. After repairing war damage, UNESCO began to focus on developing literacy, extending free education, and protecting cultural and environmental sites by designating them World Heritage Sites. The United Kingdom, Singapore, Israel, and the United States have all left UNESCO in disputes over politics and priorities. Although the UK and Singapore rejoined the organization, as of 2019 the United States had not.

Other UN Missions The UN also created the World Health Organization, which improves human health by controlling epidemics and providing vaccines. The United Nations Children's Fund (UNICEF) was created to help children after World War II. After that, the fund provided aid to children in the developing world and at disaster sites. The UN program **Human Rights Watch (HRW)** has monitored human rights abuses in 100 countries. HRW uses the Universal Declaration of Human Rights as its guide and advocates for policies that prevent abuses.

The Global Goals In 2015, the UN General Assembly set 17 goals to accomplish by 2030. These included wiping out hunger and poverty, achieving gender equality, ensuring clean water and sanitation for all, and fighting climate change. On this project, the UN worked with NGOs, including the Bill and Melinda Gates Foundation. (Connect: Evaluate the success of the United Nations in handling political crises compared to its success in dealing with other priorities. See Topic 8.5.)

International Financial NGOs

Several NGOs have worked closely with the United Nations on economic issues. Each NGO was independent and caused controversy.

The World Bank Created in 1944, the **World Bank** fought poverty by providing loans to countries. It first focused on dams and roads. Later it expanded its mission to social projects, such as education and disease prevention. Critics charged that the World Bank often ignored how its projects damaged the environment and local culture. For example, a dam might permanently flood many farms. A highway might promote growth, but the resulting profits might all go to investors overseas rather than people living in the region.

The International Monetary Fund (IMF) Created in 1945, the **IMF** was designed to help a country's economy by promoting stable currency exchange rates. It focused on making short-term loans and providing economic advice to countries. Some economists argued that conditions on IMF loans failed to take into account each country's individual needs. Large, wealthy nations influenced the IMF. It acted on their behalf, critics insisted, even while it claimed to help developing nations.

The IMF and the World Bank worked together to create Pathways for Peace in 2018. This report described how countries could work together to prevent violent conflicts.

NGOs Separate from the UN

Although the UN is well funded and powerful, other NGOs also help maintain world peace and improve communication among countries during a time of globalization. For example, the **International Peace Bureau** was founded in 1891 and won the Nobel Prize for Peace in 1910. It began working for nuclear disarmament in the 1980s. It also lobbied governments to reduce military spending. By 2019, it had 300 member organizations in 70 countries. The chart on the next page lists other international organizations committed to peace and cooperation.



Source: Guinea Red Cross Volunteers

Red Cross volunteers in Guinea go door to door with information about Ebola.

International Organizations for Peace and Cooperation

Organization	Mission
Center for International Humanitarian Cooperation (established 1992)	Promotes healing and peace in countries affected by natural disasters, armed conflicts, and ethnic violence
International Committee of the Red Cross (established 1863)	Responds quickly and efficiently to help people affected by armed conflict and disasters in conflict zones
Institute of International Humanitarian Affairs (Fordham University) (established 2001)	Trains and educates current and future aid workers at local, regional, national, and international levels
International Development Association (part of World Bank) (established 1960)	Supports a range of development activities, such as primary education, basic health services, clean water and sanitation, agriculture, business climate improvements, infrastructure, and institutional reforms.
International Organization for Migration (established 1951 and became a UN-related organization in 2018)	Mandated to help European governments identify resettlement countries for the estimated 11 million people uprooted by World War II, when it arranged transport for nearly a million migrants during the 1950s. Provides service and advice to governments and migrants.
The Organization for Economic Co-operation and Development (established 1961)	Shapes policies that foster prosperity, equality, opportunity and well-being

KEY TERMS BY THEME

GOVERNMENT: Parts of the United Nations General Assembly Security Council Secretariat secretary-general Economic and Social Council Trusteeship Council	ECONOMICS: International Organizations World Bank International Monetary Foundation (IMF)	SOCIETY: International Cooperation Universal Declaration of Human Rights peacekeeping action World Food Program (WFP) United Nations Educational, Scientific, and Cultural Organization (UNESCO) Human Rights Watch International Peace Bureau
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Continuity and Change in a Globalized World

Today, no country can ever truly cut itself off from the global media or from external sources of information; trends that start in one corner of the world are rapidly replicated thousands of miles away . . .

—Francis Fukuyama, political scientist (born 1952)

Essential Question: How did science, technology, politics, justice, transportation, communication, and the environment change and stay the same after 1900?

One perspective shared by many scholars is that the 20th and 21st centuries were periods of unprecedented change. One factor in bringing about this transformation was the pace of discovery in science and the number of technological achievements made since the turn of the 20th century. These scientific and technological advancements led to changes in society, politics, economics, culture, and the environment. While many outcomes of these advancements were positive, they also included some unintended consequences that had negative impacts. Responses to these outcomes were varied.

Advances in Science and Technology

People made significant advances in understanding the universe and the natural world. These included:

The Origin of the Universe Several scientific theories tried to determine how the universe began. One of the best-known and best-supported theories was the *Big Bang*. This theory, that the universe started with one single cosmic event, led to a better understanding of the universe as well as atomic and subatomic science.

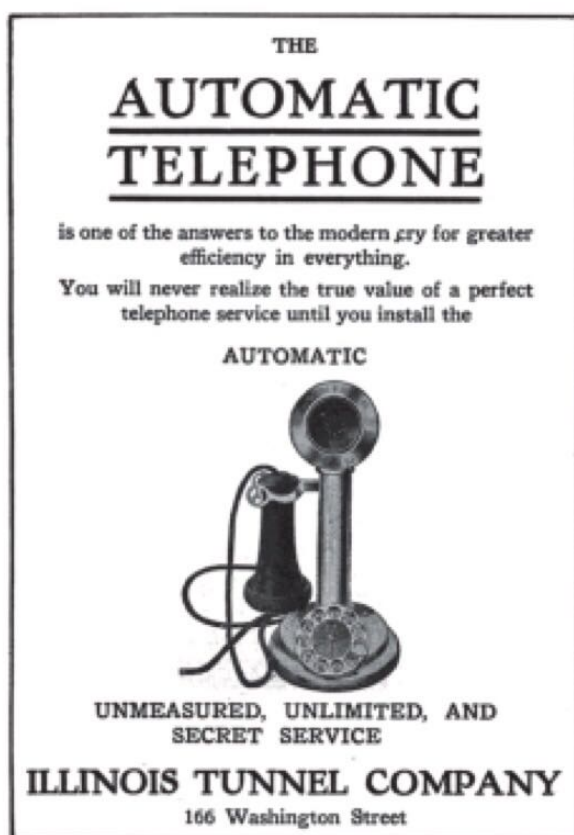
Wave Science Discoveries extended human knowledge and use of radio, light, sound, and microwaves. These breakthroughs led to improvements in radio and cellular communications as well as faster internet service.

Medical Science Experts made discoveries about germs, viruses, diseases, and the human body. These discoveries led to cures or vaccines for common diseases such as polio, tuberculosis, and tetanus. Experts pioneered

new treatments for chronic diseases such as cancer and arthritis. The discovery of antibiotics, such as penicillin, helped people recover from or prevent infections. Reliable methods of birth control allowed women to control the size of their families. These and other medical advancements meant that people could live longer and better lives.

Energy Technologies Inventors and entrepreneurs made advancements in extracting and producing oil. Nuclear power became a significant source of energy. Renewable energy sources, including wind, solar, and thermal energy, became much cheaper to produce. In 2018, the International Renewable Energy Agency predicted that renewable energy sources would be consistently cheaper than fossil fuels by 2020. The increase in sources of power led to increased productivity, greater production of material goods, and faster transportation.

Communication Technologies In the 20th century, radio and television technology was further developed and telephone coverage increased so that most people eventually had a telephone in their homes. Internet communication and cell phones then replaced the older systems of communication. As a result, the amount and extent of mass communications increased, as did the global transfer of information.



Source: Wikimedia Commons (Left), Getty Images (Right).

Technology advanced from voice communication over wires to massive amounts of data available almost anywhere.

Transportation Technologies Airplanes were invented in the first years of the 20th century. Later, jet airplanes closed the distance between regions of the world. Shipping technology improved, with faster and larger ships carrying prefabricated shipping containers. These ships and planes could transport more goods farther and faster than ever before. Improved transportation technology resulted in the expansion of the global trade network and interactions among cultures.

Agricultural Technologies Scientists produced genetically modified crops that were more resistant to drought and disease and had higher yields. The most significant effect of these advances, known as the Green Revolution, was higher population growth rates, especially within developing countries. Another effect was the decline in biodiversity, as these genetically modified crops began to be cultivated at the expense of local crop types.

Changes in a Globalized World

Partly as a result of the advances in science and technology, the world experienced a number of significant changes to societies, economies, politics, cultures, and the environment.

Social Changes During this period, the world's population grew faster than at any previous time in history. The increase in population meant increasing challenges to existing social orders. The greatest growth rate in population occurred in developing countries, while developed countries saw a slowing of their population growth. In the developing countries, the population growth rate was largest in the lower socioeconomic classes. Improvements in communication and transportation made it easier for people to migrate from less developed countries to more developed ones. That led to a “brain drain” in some countries as more highly educated and skilled people left their home countries to find jobs elsewhere.

Girls and women in this era began to experience an increase in socioeconomic status, especially in the more developed countries. Women in these societies began to enter careers traditionally reserved for men. Their right to vote in elections was finally legalized, and in some cases women held the highest political offices in their nations. Because birth control allowed women to make choices, fertility declined in developed countries. Some women chose to put off having children until later in life or decided to not have children at all. In some countries, though, women saw little improvement in their status as societies resisted the change that was happening elsewhere. (Connect: Analyze changes in the practice of birth control from the mid-20th century to the early 21st century. See Topic 9.5.)

Economic Changes The trend toward economic globalization that started in the 19th century intensified during the 20th and 21st centuries. More developed nations continued to exploit less developed areas of the world, harvesting their raw materials and using the less developed areas as markets for finished goods. However, significant changes to the world economic

order took place. While the West, and especially the United States, was still a dominant economic force in the world economy, its superiority was being challenged by new sources of economic strength. Governments in Japan, Hong Kong, South Korea, Taiwan, and Singapore began policies that led to economic growth. These policies started the trend of Asian economies, which relied on inexpensive labor and high-quality manufacturing, competing against the Western economies to make consumer goods and high-tech products. Because of the modernization policies established after the death of Mao Zedong, which relaxed government control, China eventually became the second-largest economy in the world after the United States and a major exporter of goods to the rest of the world. India became an economic powerhouse by developing a labor force that specialized in software development and engineering.

Economic Policy Initiatives		
Program	Goal	Results
Soviet Union: Lenin's New Economic Policy (1921–1928)	Increase farm production and ease the transition to a communist economy	Peasants could own land. Small businesses were allowed. The Soviet economy began to recover from the Russian Civil War.
Soviet Union: Stalin's First Five-Year Plan (1928–1932)	Rapidly industrialize the Soviet economy	Industrial output grew. Farms were collectivized instead of having individual owners. Massive famines occurred.
China: Mao Zedong's Great Leap Forward (1958–1960)	Rapidly industrialize the Chinese economy	Peasants on collective farms were forced to produce steel using crude furnaces. Massive famines occurred.
China: Deng Xiaoping's Four Modernizations (1970s)	Attract foreign investment and move toward a market-oriented economy	China opened its economy to foreign producers. Industrial output increased, and China's economy grew rapidly.
United States: Roosevelt's New Deal (1933–1941)	Stimulate the economy and provide jobs during the Great Depression	The government hired millions to work on infrastructure projects, enacted Social Security, and regulated investments and banks.
United States: Reagan's Economic Recovery Tax Act (1981)	Stimulate the economy out of recession with supply-side economics	The economy came out of recession. Stock market and income inequality rose.
Great Britain: Expansion of the Welfare State (1945–1951)	Reduce income instability and inequality and provide a social safety net	The government provided citizens with health care, pensions, free education, and help for the poor. It also created huge bureaucracies.
Great Britain: Thatcher's Privatization of Industry (1980s)	Stimulate the British economy and reduce inflation	The economy grew and inflation was reduced, but unemployment rose to record levels.

Political Changes Mass protest movements helped bring about political and social change. Demonstrations in India showed how to effectively use nonviolent resistance and win social and political change. Activists championed civil rights in the United States, Northern Ireland, Canada, and other countries. Anti-war protests erupted in the United States and Western Europe. Women's rights movements emerged in the Western democracies and spread across the globe. Protests against the system of apartheid brought an end to racial segregation in South Africa. Democracy movements led to political protests and revolutions in North Africa and the Middle East called the "Arab Spring."



Source: Wikimedia Commons

Tahrir Square was the focal point of the 2011 Egyptian Revolution against former president Hosni Mubarak and his policies of police brutality. Over 1 million gathered in Tahrir Square on February 9, 2011, demanding the removal of the regime and for Mubarak to resign.

Governments were sometimes slow to respond to these calls for change. In some cases, they persecuted, imprisoned, or attacked the protesters.

During this time period, governments also began to play a larger role in managing or regulating their nations' economies. This increased government intervention in the economy was a change from the free-market, or *laissez-faire*, economics practiced in the previous era.

Cultural Changes Once information (and people) could quickly spread across the globe, the pace of cultural interactions and exchanges intensified. People all over the world consumed Western culture, particularly aspects that originated in the United States, in the form of movies, television shows, and music. Fashion styles that appeared in one area of the world quickly were imitated and adopted in other regions. A consumer culture spread.

One significant change in the process of cultural exchanges from the previous era was that these exchanges were often a two-way street. For instance, while global audiences watched Hollywood movies, cuisine from China, Japan, India, and Latin America often found its way to the plates of Americans and Europeans. Music and art from East Asia found a loyal fan base in the United States. The Internet helped increase the rate and scope of these transfers, and advances in cellular technology made even the most remote areas on Earth accessible to these cultural exchanges.

Environmental Changes In the 20th and 21st centuries, humans attempted to overcome the challenges of their environment in many new ways. With jet airplanes, travel between points on the globe was measured in hours rather than in days, months, or years. New technologies in petroleum extraction meant that sources of energy were cheaper and more abundant than previously imagined. The Space Age broke the terrestrial limits placed on humans by their environment, and space exploration became possible.

However, although humans overcame some challenges, they also harmed the environment. Airborne pollution increased as factories, automobiles, and homes got their power from carbon-based fuels. Water pollution also increased as people and companies dumped waste in rivers, lakes, and oceans. Debates about the sources and causes of climate change developed as average temperatures around the globe increased, polar ice caps began to melt, and more intense and catastrophic weather events occurred.